Aptitude Questions

1. The price of commodity *X* increases by 40 paise every year, while the price of commodity *Y*increases by 15 paise every year. If in 2001, the price of commodity *X* was Rs. 4.20 and that of*Y* was Rs. 6.30, in which year commodity *X* will cost 40 paise more than the commodity *Y* ?

   A. 2010 B. 2011

   C. 2012 D. 2013

   Answer: Option **B**

   Explanation:

   Suppose commodity *X* will cost 40 paise more than *Y* after *z* years.

   Then, $(4.20 + 0.40z) - (6.30 + 0.15z) = 0.40$

   $\Rightarrow 0.25z = 0.40 + 2.10$

   $\Rightarrow z = \frac{2.50}{0.25} = \frac{250}{25} = 10.$

   $\therefore$ *X* will cost 40 paise more than *Y* 10 years after 2001 *i.e.,* 2011.

2. There are two examinations rooms A and B. If 10 students are sent from A to B, then the number of students in each room is the same. If 20 candidates are sent from B to A, then the number of students in A is double the number of students in B. The number of students in room A is:

   A. 20 B. 80

   C. 100 D. 200

   Answer: Option **C**

   Explanation:

   Let the number of students in rooms A and B be *x* and *y* respectively.

   Then, $x - 10 = y + 10 \Rightarrow x - y = 20$ .... (i)

   and $x + 20 = 2(y - 20) \Rightarrow x - 2y = -60$ .... (ii)

Solving (i) and (ii) we get: $x = 100$, $y = 80$.

$\therefore$ The required answer A = 100.

3. If $a - b = 3$ and $a^2 + b^2 = 29$, find the value of ab.

A. 10 B. 12

C. 15 D. 18

Answer: Option **A**

Explanation:

$2ab = (a^2 + b^2) - (a - b)^2$

$= 29 - 9 = 20$

$\Rightarrow ab = 10$.

4. The product of two numbers is 120 and the sum of their squares is 289. The sum of the number is:

A. 20 B. 23

C. 169 D. None of these

Answer: Option **B**

Explanation:

Let the numbers be x and y.

Then, $xy = 120$ and $x^2 + y^2 = 289$.

$\therefore$ $(x + y)^2 = x^2 + y^2 + 2xy = 289 + (2 \times 120) = 529$

$\therefore$ $x + y = 529 = 23$.

5. The salaries A, B, C are in the ratio 2 : 3 : 5. If the increments of 15%, 10% and 20% are allowed respectively in their salaries, then what will be new ratio of their salaries?

A. 3 : 3 : 10 B. 10 : 11 : 20

C. 23 : 33 : 60 D. Cannot be determined

Answer: Option **C**

Explanation:

Let A = 2*k*, B = 3*k* and C = 5*k*.

A's new salary = $\frac{115}{100}$ of $2k = \left(\frac{115}{100} \times 2k\right) = \frac{23k}{10}$

B's new salary = $\frac{110}{100}$ of $3k = \left(\frac{110}{100} \times 3k\right) = \frac{33k}{10}$

C's new salary = $\frac{120}{100}$ of $5k = \left(\frac{120}{100} \times 5k\right) = 6k$

$\therefore$ New ratio $\left(\frac{23k}{10} : \frac{33k}{10} : 6k\right) = 23 : 33 : 60$

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6. A and B entered into partnership with capitals in the ratio 4 : 5. After 3 months, A withdrew $\frac{1}{4}$ of his capital and B withdrew $\frac{1}{5}$ of his capital. The gain at the end of 10 months was Rs. 760. A's share in this profit is:

A. Rs. 330 B. Rs. 360

C. Rs. 380 D. Rs. 430

Answer: Option **A**

Explanation:

$A : B = \left[4x \times 3 + \left(4x - \frac{1}{4} \times 4x\right) \times 7\right] : \left[5x \times 3 + \left(5x - \frac{1}{5} \times 5x\right) \times 7\right]$

$= (12x + 21x) : (15x + 28x)$

$= 33x : 43x$

$= 33 : 43.$

$\therefore$ A's share = Rs. $\left(760 \times \frac{33}{76}\right)$ = Rs. 330.

Direction (for Q.No. 7):

Each of the questions given below consists of a question followed by three statements. You have to study the question and the statements and decide which of the statement(s) is/are necessary to answer the question.

7. What is R's share of profit in a joit venture?

I. Q started business investing Rs. 80,000.

II. R joined him after 3 months.

III. P joined after 4 months with a capital of Rs. 1,20,000 and got Rs. 6000 as his share profit.

A. All I, II and III

B. I and III only

C. II and III only

D. Even with all I, II and III, the answer cannot be arrived at

E. None of these

Answer: Option **D**

Explanation:

From I, II and III, we get P : Q : R = (120000 x 8) : (80000 x 12) : (*x* x 9).

Since R's investment is not given, the above ratio cannot be give.

∴ Given data is inadequate.

8. A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for Rs. 3200. With the help of C, they completed the work in 3 days. How much is to be paid to C?

A. Rs. 375 B. Rs. 400

C. Rs. 600 D. Rs. 800

Answer: Option **B**

Explanation:

C's 1 day's work = $\frac{1}{3} - \left(\frac{1}{6} + \frac{1}{8}\right) = \frac{1}{3} - \frac{7}{24} = \frac{1}{24}$.

A's wages : B's wages : C's wages = $\frac{1}{6} : \frac{1}{8} : \frac{1}{24}$ = 4 : 3 : 1.

∴ C's share (for 3 days) = Rs. $\left(3 \times \frac{1}{24} \times 3200\right)$ = Rs. 400.

9. A goods train runs at the speed of 72 kmph and crosses a 250 m long platform in 26 seconds. What is the length of the goods train?

A. 230 m B. 240 m

C. 260 m D. 270 m

Answer: Option **D**

Explanation:

Speed = $\left(72 \times \frac{5}{18}\right)$ m/sec = 20 m/sec.

Time = 26 sec.

Let the length of the train be *x* metres.

Then, $\frac{x + 250}{26} = 20$

⇒ $x + 250 = 520$

⇒ $x = 270$.

10. If $\log_{10} 2 = 0.3010$, then $\log_2 10$ is equal to:

A. $\frac{699}{\quad}$ B. $\frac{1000}{\quad}$

301 301

C. 0.3010 D. 0.6990

Answer: Option **B**

Explanation:

$\log_2 10 = \frac{1}{\log_{10} 2} = \frac{1}{0.3010} = \frac{10000}{3010} = \frac{1000}{301}$.

11. An error 2% in excess is made while measuring the side of a square. The percentage of error in the calculated area of the square is:

A. 2% B. 2.02%

C. 4% D. 4.04%

Answer: Option **D**

Explanation:

100 cm is read as 102 cm.

$\therefore$ $A_1 = (100 \times 100)\ cm^2$ and $A_2\ (102 \times 102)\ cm^2$.

$(A_2 - A_1) = [(102)^2 - (100)^2]$

$= (102 + 100) \times (102 - 100)$

$= 404\ cm^2$.

$\therefore$ Percentage error $= \left(\frac{404}{100 \times 100} \times 100\right)\% = 4.04\%$

12. In a shower, 5 cm of rain falls. The volume of water that falls on 1.5 hectares of ground is:

A. 75 cu. m B. 750 cu. m

C. 7500 cu. m D. 75000 cu. m

Answer: Option **B**

Explanation:

1 hectare = 10,000 m^2

So, Area = (1.5 x 10000) m^2 = 15000 m^2.

Depth = $\frac{5}{100}$m = $\frac{1}{20}$m.

$\therefore$ Volume = (Area x Depth) = $\left(15000 \times \frac{1}{20}\right)m^3$ = 750 m^3.

Direction (for Q.No. 13):

Each of the questions given below consists of a statement and / or a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statement(s) is / are sufficient to answer the given question. Read the both statements and

- Give answer (A) if the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.
- Give answer (B) if the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.
- Give answer (C) if the data either in Statement I or in Statement II alone are sufficient to answer the question.
- Give answer (D) if the data even in both Statements I and II together are not sufficient to answer the question.
- Give answer(E) if the data in both Statements I and II together are necessary to answer the question.

13. What is the volume of a cube?

I. The area of each face of the cube is 64 square metres.

II. The length of one side of the cube is 8 metres.

A. I alone sufficient while II alone not sufficient to answer

B. II alone sufficient while I alone not sufficient to answer

C. Either I or II alone sufficient to answer

D. Both I and II are not sufficient to answer

E. Both I and II are necessary to answer

Answer: Option **C**

Explanation:

Let each edge be *a* metres. Then,

I. $a^2 = 64 \Rightarrow a = 8$ m $\Rightarrow$ Volume = $(8 \times 8 \times 8)$ $m^3 = 512$ m^3.

Thus, I alone gives the answer.

II. $a = 8$ m $\Rightarrow$ Volume = $(8 \times 8 \times 8)$ $m^3 = 512$ m^3.

Thus, II alone gives the answer.

$\therefore$ Correct answer is (C).

14. The reflex angle between the hands of a clock at 10.25 is:

A. 180^o B. $192\frac{1^o}{2}$

C. 195^o D. $197\frac{1^o}{2}$

Answer: Option **D**

Explanation:

Angle traced by hour hand in $\frac{125}{12}$ hrs $= \left(\frac{360}{12} \times \frac{125}{12}\right)^o = 312\frac{1^o}{2}$.

Angle traced by minute hand in 25 min $= \left(\frac{360}{60} \times 25\right)^o = 150^o$.

$\therefore$ Reflex angle $= 360^o - \left(312\frac{1}{2} - 150\right)^o = 360^o - 162\frac{1^o}{2} = 197\frac{1}{2}$.

15. At what time between 4 and 5 o'clock will the hands of a watch point in opposite directions?

A. 45 min. past 4 B. 40 min. past 4

C. $50\frac{4}{11}$ min. past 4

D. $54\frac{6}{11}$ min. past 4

Answer: Option **D**

Explanation:

At 4 o'clock, the hands of the watch are 20 min. spaces apart.

To be in opposite directions, they must be 30 min. spaces apart.

∴ Minute hand will have to gain 50 min. spaces.

55 min. spaces are gained in 60 min.

50 min. spaces are gained in $\left(\frac{60}{55} \times 50\right)$ min. or $54\frac{6}{11}$ min.

∴ Required time = $54\frac{6}{11}$ min. past 4.

16. A 12% stock yielding 10% is quoted at:

A. Rs. 83.33

B. Rs. 110

C. Rs. 112

D. Rs. 120

Answer: Option **D**

Explanation:

To earn Rs. 10, money invested = Rs. 100.

To earn Rs. 12, money invested = Rs. $\left(\frac{100}{10} \times 12\right)$ = Rs. 120.

∴ Market value of Rs. 100 stock = Rs. 120.

17. In how many different ways can the letters of the word 'DETAIL' be arranged in such a way that the vowels occupy only the odd positions?

A. 32

B. 48

C. 36 D. 60

E. 120

Answer: Option **C**

Explanation:

There are 6 letters in the given word, out of which there are 3 vowels and 3 consonants.

Let us mark these positions as under:

(1) (2) (3) (4) (5) (6)

Now, 3 vowels can be placed at any of the three places out 4, marked 1, 3, 5.

Number of ways of arranging the vowels = ${}^3P_3 = 3! = 6$.

Also, the 3 consonants can be arranged at the remaining 3 positions.

Number of ways of these arrangements = ${}^3P_3 = 3! = 6$.

Total number of ways = (6 x 6) = 36.

18. Two dice are tossed. The probability that the total score is a prime number is:

A. $\frac{1}{6}$ B. $\frac{5}{12}$

C. $\frac{1}{2}$ D. $\frac{7}{9}$

Answer: Option **B**

Explanation:

Clearly, $n(S) = (6 \times 6) = 36$.

Let E = Event that the sum is a prime number.

Then E = { (1, 1), (1, 2), (1, 4), (1, 6), (2, 1), (2, 3), (2, 5), (3, 2), (3, 4), (4, 1), (4, 3), (5, 2), (5, 6), (6, 1), (6, 5) }

$\therefore$ $n(E) = 15$.

$\therefore$ $P(E) = \frac{n(E)}{} = \frac{15}{} = \frac{5}{}$.

$n(S)$ 36 12

19. An observer 1.6 m tall is 203 away from a tower. The angle of elevation from his eye to the top of the tower is 30º. The heights of the tower is:

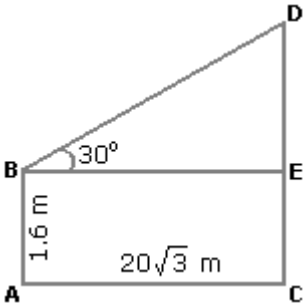
A. 21.6 m B. 23.2 m

C. 24.72 m D. None of these

Answer: Option **A**

Explanation:

Let AB be the observer and CD be the tower.



Draw BE ⊥ CD.

Then, CE = AB = 1.6 m,

BE = AC = 203 m.

$$\frac{DE}{BE} = \tan 30^\circ = \frac{1}{\sqrt{3}}$$

$$\Rightarrow DE = \frac{203}{3}\text{m} = 20 \text{ m}.$$

$\therefore$ CD = CE + DE = (1.6 + 20) m = 21.6 m.

Direction (for Q.No. 20):

Find the odd man out.

20. 1, 4, 9, 16, 23, 25, 36

A. 9 B. 23

C. 25 D. 36

Answer: Option **B**

Explanation:

Each of the numbers except 23, is perfect square.

21. Let N be the greatest number that will divide 1305, 4665 and 6905, leaving the same remainder in each case. Then sum of the digits in N is:

A. 4 B. 5

C. 6 D. 8

Answer: Option **A**

Explanation:

N = H.C.F. of (4665 - 1305), (6905 - 4665) and (6905 - 1305)

= H.C.F. of 3360, 2240 and 5600 = 1120.

Sum of digits in N = (1 + 1 + 2 + 0) = 4

22. The average weight of 8 person's increases by 2.5 kg when a new person comes in place of one of them weighing 65 kg. What might be the weight of the new person?

A. 76 kg B. 76.5 kg

C. 85 kg D. Data inadequate

E. None of these

Answer: Option **C**

Explanation:

Total weight increased = (8 x 2.5) kg = 20 kg.

Weight of new person = (65 + 20) kg = 85 kg.

23. The difference between a two-digit number and the number obtained by interchanging the digits is 36. What is the difference between the sum and the difference of the digits

of the number if the ratio between the digits of the number is 1 : 2 ?

A. 4 B. 8

C. 16 D. None of these

Answer: Option **B**

Explanation:

Since the number is greater than the number obtained on reversing the digits, so the ten's digit is greater than the unit's digit.

Let ten's and unit's digits be $2x$ and x respectively.

Then, $(10 \times 2x + x) - (10x + 2x) = 36$

$\Rightarrow 9x = 36$

$\Rightarrow x = 4.$

$\therefore$ Required difference = $(2x + x) - (2x - x) = 2x = 8.$

24. The sum of the present ages of a father and his son is 60 years. Six years ago, father's age was five times the age of the son. After 6 years, son's age will be:

A. 12 years B. 14 years

C. 18 years D. 20 years

Answer: Option **D**

Explanation:

Let the present ages of son and father be x and $(60 - x)$ years respectively.

Then, $(60 - x) - 6 = 5(x - 6)$

$\Rightarrow 54 - x = 5x - 30$

$\Rightarrow 6x = 84$

$\Rightarrow x = 14.$

$\therefore$ Son's age after 6 years = $(x + 6) = 20$ years..

25. Three candidates contested an election and received 1136, 7636 and 11628 votes respectively. What percentage of the total votes did the winning candidate get?

A. 57%

B. 60%

C. 65%

D. 90%

Answer: Option **A**

Explanation:

Total number of votes polled = (1136 + 7636 + 11628) = 20400.

$\therefore$ Required percentage = $\left(\frac{11628}{20400} \times 100\right)\% = 57\%$.

26. In a certain store, the profit is 320% of the cost. If the cost increases by 25% but the selling price remains constant, approximately what percentage of the selling price is the profit?

A. 30%

B. 70%

C. 100%

D. 250%

Answer: Option **B**

Explanation:

Let C.P.= Rs. 100. Then, Profit = Rs. 320, S.P. = Rs. 420.

New C.P. = 125% of Rs. 100 = Rs. 125

New S.P. = Rs. 420.

Profit = Rs. (420 - 125) = Rs. 295.

$\therefore$ Required percentage = $\left(\frac{295}{420} \times 100\right)\% = \frac{1475}{21}\% = 70\%$ (approximately).

27. If the cost of *x* metres of wire is d rupees, then what is the cost of *y* metres of wire at the same rate?

A. Rs. $\left(\frac{xy}{d}\right)$

B. Rs. (*xd*)

C. Rs. (*yd*)

D. Rs. $\left(yd\right)$

x

Answer: Option **D**

Explanation:

Cost of x metres = Rs. d.

Cost of 1 metre = Rs. $\left(\frac{d}{x}\right)$

Cost of y metres = Rs. $\left(\frac{d}{x} \cdot y\right)$ = Rs. $\left(\frac{yd}{x}\right)$.

28. A flagstaff 17.5 m high casts a shadow of length 40.25 m. The height of the building, which casts a shadow of length 28.75 m under similar conditions will be:

A. 10 m B. 12.5 m

C. 17.5 m D. 21.25 m

Answer: Option **B**

Explanation:

Let the height of the building x metres.

Less lengthy shadow, Less in the height (Direct Proportion)

$\therefore$ 40.25 : 28.75 **::** 17.5 : x $\Leftrightarrow$ 40.25 x x = 28.75 x 17.5

$$x = \frac{28.75 \times 17.5}{40.25}$$

$\Rightarrow x = 12.5$

Direction (for Q.No. 29):

Each of the questions given below consists of a question followed by three statements. You have to study the question and the statements and decide which of the statement(s) is/are necessary to answer the question.

29. In how many days can 10 women finish a work?

I. 10 men can complete the work in 6 days.

II. 10 men and 10 women together can complete the work in $3\frac{3}{7}$ days

III. If 10 men work for 3 days and thereafter 10 women replace them, the remaining work in completed in 4 days.

A. Any two of the three

B. I and II only

C. II and III only

D. I and III only

E. None of these

Answer: Option **A**

Explanation:

I. (10 x 6) men can complete the work in 1 day.

$\Rightarrow$ 1 man's 1 day's work = $\frac{1}{60}$

II. $\left(10 \times \frac{24}{7}\right)$ men + $\left(10 \times \frac{24}{7}\right)$ women can complete the work in 1 day.

$\Rightarrow \left(\frac{240}{7}\right)$ men's 1 day work + $\left(\frac{240}{7}\right)$ women's 1 day work = 1.

$\Rightarrow \left(\frac{240}{7} \times \frac{1}{60}\right) + \left(\frac{240}{7}\right)$ women's 1 day's work = 1.

$\Rightarrow \left(\frac{240}{\quad}\right)$ women's 1 day's work = $\left(1 - \frac{4}{\quad}\right) = 3$

7 7 7

$\Rightarrow$ 10 women's 1 day's work = $\left(\frac{3}{7} \times \frac{7}{240} \times 10\right) = \frac{1}{8}$

So, 10 women can finish the work in 8 days.

III. (10 men's work for 3 days) + (10 women's work for 4 days) = 1

$\Rightarrow$ (10 x 3) men's 1 day's work + (10 x 4) women's 1 day's work = 1

$\Rightarrow$ 30 men's 1 day's work + 40 women's 1 day's work = 1

Thus, I and III will give us the answer.

And, II and III will give us the answer.

$\therefore$ Correct answer is (A).

Direction (for Q.No. 30):

Each of these questions is followed by three statements. You have to study the question and all the three statements given to decide whether any information provided in the statement(s) is redundant and can be dispensed with while answering the given question.

30. 8 men and 14 women are working together in a field. After working for 3 days, 5 men and 8 women leave the work. How many more days will be required to complete the work?

I. 19 men and 12 women together can complete the work in 18 days.

II. 16 men can complete two-third of the work in 16 days.

III. In 1 day, the work done by three men in equal to the work done by four women.

A. I only

B. II only

C. III only

D. I or II or III

E. II or III only

Answer: Option **D**

Explanation:

Clearly, I only gives the answer.

Similarly, II only gives the answer.

And, III only gives the answer.

∴ Correct answer is (D).

31. A towel, when bleached, was found to have lost 20% of its length and 10% of its breadth. The percentage of decrease in area is:

A. 10% B. 10.08%

C. 20% D. 28%

Answer: Option **D**

Explanation:

Let original length = x and original breadth = y.

Decrease in area $= xy - \left(\frac{80}{100}x \times \frac{90}{100}y\right)$

$= \left(xy - \frac{18}{25}xy\right)$

$= \frac{7}{25}xy.$

∴ Decrease % $= \left(\frac{7}{25}xy \times \frac{1}{xy} \times 100\right)\% = 28\%.$

Direction (for Q.No. 32):

Each of the questions given below consists of a statement and / or a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statement(s) is / are sufficient to answer the given question. Read the both statements and

- Give answer (A) if the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.
- Give answer (B) if the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.
- Give answer (C) if the data either in Statement I or in Statement II alone are sufficient to answer the question.
- Give answer (D) if the data even in both Statements I and II together are not sufficient to answer the question.
- Give answer(E) if the data in both Statements I and II together are necessary to answer the question.

32. What is the capacity of a cylindrical tank?

I. Radius of the base is half of its height which is 28 metres.

II. Area of the base is 616 sq. metres and its height is 28 metres.

A. I alone sufficient while II alone not sufficient to answer

B. II alone sufficient while I alone not sufficient to answer

C. Either I or II alone sufficient to answer

D. Both I and II are not sufficient to answer

E. Both I and II are necessary to answer

Answer: Option **C**

Explanation:

I gives, $h = 28$ m and $r = 14$.

$\therefore$ Capacity $= \pi r^2 h$, which can be obtained.

Thus, I alone gives the answer.

II gives, $\pi r^2 = 616\ m^2$ and $h = 28$ m.

∴ Capacity = (πr^2 x h) = (616 x 28) m^3.

Thus, II alone gives the answer.

∴ Correct answer is (C).

33. In 100 m race, A covers the distance in 36 seconds and B in 45 seconds. In this race A beats B by:

A. 20 m B. 25 m

C. 22.5 m D. 9 m

Answer: Option **A**

Explanation:

Distance covered by B in 9 sec. = $\left(\frac{100}{45} \text{ x } 9\right)_m$ = 20 m.

∴ A beats B by 20 metres.

34. A 6% stock yields 8%. The market value of the stock is:

A. Rs. 48 B. Rs. 75

C. Rs. 96 D. Rs. 133.33

Answer: Option **B**

Explanation:

For an income of Rs. 8, investment = Rs. 100.

For an income of Rs. 6, investment = Rs. $\left(\frac{100}{8} \text{ x } 6\right)$ = Rs. 75.

∴ Market value of Rs. 100 stock = Rs. 75.

35. A box contains 2 white balls, 3 black balls and 4 red balls. In how many ways can 3 balls be drawn from the box, if at least one black ball is to be included in the draw?

A. 32 B. 48

C. 64 D. 96

E. None of these

Answer: Option **C**

Explanation:

We may have(1 black and 2 non-black) or (2 black and 1 non-black) or (3 black).

∴ Required number of ways $= ({}^3C_1 \times {}^6C_2) + ({}^3C_2 \times {}^6C_1) + ({}^3C_3)$

$$= \left(3 \times \frac{6 \times 5}{2 \times 1}\right) + \left(\frac{3 \times 2}{2 \times 1} \times 6\right) + 1$$

$$= (45 + 18 + 1)$$

$$= 64.$$

36. If Rs. 10 be allowed as true discount on a bill of Rs. 110 due at the end of a certain time, then the discount allowed on the same sum due at the end of double the time is:

A. Rs. 20 B. Rs. 21.81

C. Rs. 22 D. Rs. 18.33

Answer: Option **D**

Explanation:

S.I. on Rs. (110 - 10) for a certain time = Rs. 10.

S.I. on Rs. 100 for double the time = Rs. 20.

T.D. on Rs. 120 = Rs. (120 - 100) = Rs. 20.

T.D. on Rs. 110 = Rs. $\left(\frac{20}{120} \times 110\right)$ = Rs. 18.33

Direction (for Q.Nos. 37 - 38):

Find the odd man out.

37. 10, 14, 16, 18, 21, 24, 26

A. 26 B. 24

C. 21 D. 18

Answer: Option **C**

Explanation:

Each of the numbers except 21 is an even number.

38. 835, 734, 642, 751, 853, 981, 532

A. 751 B. 853

C. 981 D. 532

Answer: Option **A**

Explanation:

In each number except 751, the difference of third and first digit is the middle one.

Direction (for Q.No. 39):

Find out the wrong number in the given sequence of numbers.

39. 1, 2, 6, 15, 31, 56, 91

A. 31 B. 91

C. 56 D. 15

Answer: Option **B**

Explanation:

1, $1 + 1^2 = 2$, $2 + 2^2 = 6$, $6 + 3^2 = 15$, $15 + 4^2 = 31$, $31 + 5^2 = 56$, $56 + 6^2 = 92$

Last number of given series must be 92 not 91.

Direction (for Q.No. 40):

Insert the missing number.

40. 7, 26, 63, 124, 215, 342, (....)

A. 481 B. 511

C. 391 D. 421

Answer: Option **B**

Explanation:

Numbers are $(2^3 - 1)$, $(3^3 - 1)$, $(4^3 - 1)$, $(5^3 - 1)$, $(6^3 - 1)$, $(7^3 - 1)$ etc.

So, the next number is $(8^3 - 1) = (512 - 1) = 511$.

41. Two trains running in opposite directions cross a man standing on the platform in 27 seconds and 17 seconds respectively and they cross each other in 23 seconds. The ratio of their speeds is:

A. 1 : 3 B. 3 : 2

C. 3 : 4 D. None of these

Answer: Option **B**

Explanation:

Let the speeds of the two trains be x m/sec and y m/sec respectively.

Then, length of the first train = $27x$ metres,

and length of the second train = $17y$ metres.

$$\therefore \frac{27x + 17y}{x + y} = 23$$

$$\Rightarrow 27x + 17y = 23x + 23y$$

$$\Rightarrow 4x = 6y$$

$$\Rightarrow \frac{x}{y} = \frac{3}{2}.$$

42. A train overtakes two persons walking along a railway track. The first one walks at 4.5

km/hr. The other one walks at 5.4 km/hr. The train needs 8.4 and 8.5 seconds respectively to overtake them. What is the speed of the train if both the persons are walking in the same direction as the train?

A. 66 km/hr

B. 72 km/hr

C. 78 km/hr

D. 81 km/hr

Answer: Option **D**

Explanation:

4.5 km/hr = $\left(4.5 \times \frac{5}{18}\right)$ m/sec = $\frac{5}{4}$ m/sec = 1.25 m/sec, and

5.4 km/hr = $\left(5.4 \times \frac{5}{18}\right)$ m/sec = $\frac{3}{2}$ m/sec = 1.5 m/sec.

Let the speed of the train be x m/sec.

Then, $(x - 1.25) \times 8.4 = (x - 1.5) \times 8.5$

$\Rightarrow 8.4x - 10.5 = 8.5x - 12.75$

$\Rightarrow 0.1x = 2.25$

$\Rightarrow x = 22.5$

$\therefore$ Speed of the train = $\left(22.5 \times \frac{18}{5}\right)$ km/hr = 81 km/hr.

43. A runs $1\frac{2}{3}$ times as fast as B. If A gives B a start of 80 m, how far must the winning post be so that A and B might reach it at the same time?

A. 200 m

B. 300 m

C. 270 m

D. 160 m

Answer: Option **A**

Explanation:

Ratio of the speeds of A and B = $\frac{5}{3}$: 1 = 5 : 3.

Thus, in race of 5 m, A gains 2 m over B.

2 m are gained by A in a race of 5 m.

80 m will be gained by A in race of $\left(\frac{5}{2} \times 80\right)$m = 200 m.

∴ Winning post is 200 m away from the starting point.

44. Q is as much younger than R as he is older than T. If the sum of the ages of R and T is 50 years, what is definitely the difference between R and Q's age?

A. 1 year
B. 2 years
C. 25 years
D. Data inadequate
E. None of these

Answer: Option **D**

Explanation:

Given that:

1. The difference of age b/w R and Q = The difference of age b/w Q and T.

2. Sum of age of R and T is 50 i.e. (R + T) = 50.

Question: R - Q = ?.

Explanation:

R - Q = Q - T

(R + T) = 2Q

Now given that, (R + T) = 50

So, 50 = 2Q and therefore Q = 25.

Question is (R - Q) = ?

Here we know the value(age) of Q (25), but we don't know the age of R.

Therefore, (R-Q) cannot be determined.

45. The value of $\log_2 16$ is:

A. $\frac{1}{8}$ B. 4

C. 8 D. 16

Answer: Option **B**

Explanation:

Let $\log_2 16 = n$.

Then, $2^n = 16 = 2^4 \Rightarrow n = 4$.

$\therefore \log_2 16 = 4$.

46. In a two-digit, if it is known that its unit's digit exceeds its ten's digit by 2 and that the product of the given number and the sum of its digits is equal to 144, then the number is:

A. 24 B. 26

C. 42 D. 46

Answer: Option **A**

Explanation:

Let the ten's digit be x.

Then, unit's digit = $x + 2$.

Number = $10x + (x + 2) = 11x + 2$.

Sum of digits = $x + (x + 2) = 2x + 2$.

$\therefore (11x + 2)(2x + 2) = 144$

$\Rightarrow 22x^2 + 26x - 140 = 0$

$\Rightarrow 11x^2 + 13x - 70 = 0$

$\Rightarrow (x - 2)(11x + 35) = 0$

$\Rightarrow x = 2.$

Hence, required number = $11x + 2 = 24$.

47. The square root of 64009 is:

A. 253 B. 347

C. 363 D. 803

Answer: Option **A**

Explanation:

```
  2|64009( 253
   |4
   |----------
 45|240
   |225
   |----------
503|  1509
   |  1509
   |----------
   |    X
   |----------
```

$\therefore$ 64009 = 253.

48. What should come in place of both x in the equation $\frac{x}{128} = \frac{162}{x}$.

A. 12 B. 14

C. 144 D. 196

Answer: Option **A**

Explanation:

Let $\frac{x}{128} = \frac{162}{x}$

Then $x^2 = 128 \times 162$

$= 64 \times 2 \times 18 \times 9$

$= 8^2 \times 6^2 \times 3^2$

$= 8 \times 6 \times 3$

$= 144.$

$\therefore\ x = \sqrt{144} = 12.$

49. A, B and C can do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on every third day?

A. 12 days

B. 15 days

C. 16 days

D. 18 days

Answer: Option **B**

Explanation:

A's 2 day's work $= \left(\frac{1}{20} \times 2\right) = \frac{1}{10}.$

(A + B + C)'s 1 day's work $= \left(\frac{1}{20} + \frac{1}{30} + \frac{1}{60}\right) = \frac{6}{60} = \frac{1}{10}.$

Work done in 3 days $= \left(\frac{1}{10} + \frac{1}{10}\right) = \frac{1}{5}.$

Now, $\frac{1}{5}$ work is done in 3 days.

$\therefore$ Whole work will be done in (3 x 5) = 15 days.

50. The value of $\frac{489.1375 \times 0.0483 \times 1.956}{0.0873 \times 92.581 \times 99.749}$ is closest to:

A. 0.006

B. 0.06

C. 0.6 D. 6

Answer: Option **B**

Explanation:

$$\frac{489.1375 \times 0.0483 \times 1.956}{0.0873 \times 92.581 \times 99.749} \approx \frac{489 \times 0.05 \times 2}{0.09 \times 93 \times 100}$$

$$= \frac{489}{9 \times 93 \times 10}$$

$$= \frac{163}{279} \times \frac{1}{10}$$

$$= \frac{0.58}{10}$$

$$= 0.058 \approx 0.06.$$

51. Three number are in the ratio of 3 : 4 : 5 and their L.C.M. is 2400. Their H.C.F. is:

A. 40 B. 80

C. 120 D. 200

Answer: Option **A**

Explanation:

Let the numbers be 3*x*, 4*x* and 5*x*.

Then, their L.C.M. = 60*x*.

So, 60*x* = 2400 or x = 40.

∴ The numbers are (3 x 40), (4 x 40) and (5 x 40).

Hence, required H.C.F. = 40.

52. Which of the following fraction is the largest ?

A. $\frac{7}{}$ B. $\frac{13}{}$

8

16

C. $\frac{31}{40}$

D. $\frac{63}{80}$

Answer: Option **A**

Explanation:

L.C.M. of 8, 16, 40 and 80 = 80.

$\frac{7}{8} = \frac{70}{80}$; $\frac{13}{16} = \frac{65}{80}$; $\frac{31}{40} = \frac{62}{80}$

Since, $\frac{70}{80} > \frac{65}{80} > \frac{63}{80} > \frac{62}{80}$, so $\frac{7}{8} > \frac{13}{16} > \frac{63}{80} > \frac{31}{40}$

So, $\frac{7}{8}$ is the largest.

53. A sum of Rs. 725 is lent in the beginning of a year at a certain rate of interest. After 8 months, a sum of Rs. 362.50 more is lent but at the rate twice the former. At the end of the year, Rs. 33.50 is earned as interest from both the loans. What was the original rate of interest?

A. 3.6%

B. 4.5%

C. 5%

D. 6%

E. None of these

Answer: Option **E**

Explanation:

Let the original rate be R%. Then, new rate = (2R)%.

Note:

Here, original rate is for 1 year(s); the new rate is for only 4 months i.e. $\frac{1}{3}$ year(s).

$\therefore \left(\frac{725 \times R \times 1}{100}\right) + \left(\frac{362.50 \times 2R \times 1}{100 \times 3}\right) = 33.50$

$\Rightarrow (2175 + 725)\, R = 33.50 \times 100 \times 3$

$\Rightarrow (2175 + 725)\, R = 10050$

$\Rightarrow (2900)R = 10050$

$\Rightarrow R = \frac{10050}{2900} = 3.46$

$\therefore$ Original rate = 3.46%

54. An accurate clock shows 8 o'clock in the morning. Through how may degrees will the hour hand rotate when the clock shows 2 o'clock in the afternoon?

A. 144^o B. 150^o

C. 168^o D. 180^o

Answer: Option **D**

Explanation:

Angle traced by the hour hand in 6 hours = $\left(\frac{360}{12} \times 6\right)^o = 180^o$.

55. From a group of 7 men and 6 women, five persons are to be selected to form a committee so that at least 3 men are there on the committee. In how many ways can it be done?

A. 564 B. 645

C. 735 D. 756

E. None of these

Answer: Option **D**

Explanation:

We may have (3 men and 2 women) or (4 men and 1 woman) or (5 men only).

$\therefore$ Required number of ways $= ({}^7C_3 \times {}^6C_2) + ({}^7C_4 \times {}^6C_1) + ({}^7C_5)$

$$= \left(\frac{7 \times 6 \times 5}{3 \times 2 \times 1} \times \frac{6 \times 5}{2 \times 1}\right) + ({}^7C_3 \times {}^6C_1) + ({}^7C_2)$$

$$= 525 + \left(\frac{7 \times 6 \times 5}{3 \times 2 \times 1} \times 6\right) + \left(\frac{7 \times 6}{2 \times 1}\right)$$

$$= (525 + 210 + 21)$$

$$= 756.$$

56. A dishonest milkman professes to sell his milk at cost price but he mixes it with water and thereby gains 25%. The percentage of water in the mixture is:

A. 4%

B. $6\frac{1}{4}\%$

C. 20%

D. 25%

Answer: Option **C**

Explanation:

Let C.P. of 1 litre milk be Re. 1

Then, S.P. of 1 litre of mixture = Re. 1, Gain = 25%.

C.P. of 1 litre mixture = Re. $\left(\frac{100}{125} \times 1\right) = \frac{4}{5}$

By the rule of alligation, we have:

C.P. of 1 litre of milk		C.P. of 1 litre of water
Re. 1	Mean Price	0
4/5	Re. 4/5	1/5

$\therefore$ Ratio of milk to water = $\frac{4}{5} : \frac{1}{5} = 4 : 1$.

Hence, percentage of water in the mixture = $\left(\frac{1}{5} \times 100\right)\% = 20\%$.

57. A vessel is filled with liquid, 3 parts of which are water and 5 parts syrup. How much of the mixture must be drawn off and replaced with water so that the mixture may be half water and half syrup?

A. $\frac{1}{3}$ B. $\frac{1}{4}$

C. $\frac{1}{5}$ D. $\frac{1}{7}$

Answer: Option **C**

Explanation:

Suppose the vessel initially contains 8 litres of liquid.

Let x litres of this liquid be replaced with water.

Quantity of water in new mixture = $\left(3 - \frac{3x}{8} + x\right)$ litres

Quantity of syrup in new mixture = $\left(5 - \frac{5x}{8}\right)$ litres

$\therefore \left(3 - \frac{3x}{8} + x\right) = \left(5 - \frac{5x}{8}\right)$

$\Rightarrow 5x + 24 = 40 - 5x$

$\Rightarrow 10x = 16$

$\Rightarrow x = \frac{8}{5}$.

So, part of the mixture replaced = $\left(\frac{8}{5} \times \frac{1}{8}\right) = \frac{1}{5}$.

58. The cost price of a Rs. 100 stock at 4 discount, when brokerage is $\frac{1}{4}$% is:

A. Rs. 95.75
B. Rs. 96
C. Rs. 96.25
D. Rs. 104.25

Answer: Option **C**

Explanation:

C.P. = Rs. $\left(100 - 4 + \frac{1}{4}\right)$ = Rs. 96.25

59. If 40% of a number is equal to two-third of another number, what is the ratio of first number to the second number?

A. 2 : 5
B. 3 : 7
C. 5 : 3
D. 7 : 3

Answer: Option **C**

Explanation:

Let 40% of A = $\frac{2}{3}$ B

Then, $\frac{40A}{100} = \frac{2B}{3}$

$\Rightarrow \frac{2A}{5} = \frac{2B}{3}$

$\Rightarrow A = \left(2 \times \frac{5}{2}\right) = 5$

B 3 2 3

∴ A : B = 5 : 3.

60. In a bag, there are coins of 25 p, 10 p and 5 p in the ratio of 1 : 2 : 3. If there is Rs. 30 in all, how many 5 p coins are there?

A. 50 B. 100

C. 150 D. 200

Answer: Option **C**

Explanation:

Let the number of 25 p, 10 p and 5 p coins be x, $2x$, $3x$ respectively.

Then, sum of their values = Rs. $\left(\frac{25x}{100} + \frac{10 \times 2x}{100} + \frac{5 \times 3x}{100}\right)$ = Rs. $\frac{60x}{100}$

∴ $\frac{60x}{100} = 30 \Leftrightarrow x = \frac{30 \times 100}{60} = 50.$

Hence, the number of 5 p coins = (3 x 50) = 150.

61. A fires 5 shots to B's 3 but A kills only once in 3 shots while B kills once in 2 shots. When B has missed 27 times, A has killed:

A. 30 birds B. 60 birds

C. 72 birds D. 90 birds

Answer: Option **A**

Explanation:

Let the total number of shots be x. Then,

Shots fired by A = $\frac{5}{8}x$

Shots fired by B = $\frac{3}{8}x$

Killing shots by A = $\frac{1}{3}$ of $\frac{5}{8}x = \frac{5}{24}x$

Shots missed by B = $\frac{1}{2}$ of $\frac{3}{8}x = \frac{3}{16}x$

$\therefore \frac{3x}{16} = 27$ or $x = \left(\frac{27 \times 16}{3}\right) = 144.$

Birds killed by A = $\frac{5x}{24} = \left(\frac{5}{24} \times 144\right) = 30.$

62. Six years ago, the ratio of the ages of Kunal and Sagar was 6 : 5. Four years hence, the ratio of their ages will be 11 : 10. What is Sagar's age at present?

A. 16 years
B. 18 years
C. 20 years
D. Cannot be determined
E. None of these

Answer: Option **A**

Explanation:

Let the ages of Kunal and Sagar 6 years ago be $6x$ and $5x$ years respectively.

Then, $\frac{(6x + 6) + 4}{(5x + 6) + 4} = \frac{11}{10}$

$\Rightarrow 10(6x + 10) = 11(5x + 10)$

$\Rightarrow 5x = 10$

$\Rightarrow x = 2.$

$\therefore$ Sagar's present age = $(5x + 6) = 16$ years.

63. Q is as much younger than R as he is older than T. If the sum of the ages of R and T is 50 years, what is definitely the difference between R and Q's age?

A. 1 year
B. 2 years

C. 25 years

D. Data inadequate

E. None of these

Answer: Option **D**

Explanation:

Given that:

1. The difference of age b/w R and Q = The difference of age b/w Q and T.

2. Sum of age of R and T is 50 i.e. (R + T) = 50.

Question: R - Q = ?.

Explanation:

R - Q = Q - T

(R + T) = 2Q

Now given that, (R + T) = 50

So, 50 = 2Q and therefore Q = 25.

Question is (R - Q) = ?

Here we know the value(age) of Q (25), but we don't know the age of R.

Therefore, (R-Q) cannot be determined.

64. $\frac{1}{1 + x^{(b-a)} + x^{(c-a)}} + \frac{1}{1 + x^{(a-b)} + x^{(c-b)}} + \frac{1}{1 + x^{(b-c)} + x^{(a-c)}} = ?$

A. 0

B. 1

C. x^{a-b-c}

D. None of these

Answer: Option **B**

Explanation:

$$\text{Given Exp.} = \frac{1}{\left(1 + \frac{x^b}{x^a} + \frac{x^c}{x^a}\right)} + \frac{1}{\left(1 + \frac{x^a}{x^b} + \frac{x^c}{x^b}\right)} + \frac{1}{\left(1 + \frac{x^b}{x^c} + \frac{x^a}{x^c}\right)}$$

$$= \frac{x^a}{(x^a + x^b + x^c)} + \frac{x^b}{(x^a + x^b + x^c)} + \frac{x^c}{(x^a + x^b + x^c)}$$

$$= \frac{(x^a + x^b + x^c)}{(x^a + x^b + x^c)}$$

$$= 1.$$

2

65. $\frac{1}{1 + a^{(n - m)}} + \frac{1}{1 + a^{(m - n)}} = ?$

A. 0

B. $\frac{1}{2}$

C. 1

D. $a^{m + n}$

Answer: Option **C**

Explanation:

$$\frac{1}{1 + a^{(n - m)}} + \frac{1}{1 + a^{(m - n)}} = \frac{1}{\left(1 + \frac{a^n}{a^m}\right)} + \frac{1}{\left(1 + \frac{a^m}{a^n}\right)}$$

$$= \frac{a^m}{(a^m + a^n)} + \frac{a^n}{(a^m + a^n)}$$

$$= \frac{(a^m + a^n)}{(a^m + a^n)}$$

= 1.

66. Simran started a software business by investing Rs. 50,000. After six months, Nanda joined her with a capital of Rs. 80,000. After 3 years, they earned a profit of Rs. 24,500. What was Simran's share in the profit?

A. Rs. 9,423
B. Rs. 10,250
C. Rs. 12,500
D. Rs. 10,500

Answer: Option **D**

Explanation:

Simran : Nanda = (50000 x 36) : (80000 x 30) = 3 : 4.

$\therefore$ Simran's share = Rs. $\left(24500 \times \frac{3}{7}\right)$ = Rs. 10,500.

67. A, B and C can do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on every third day?

A. 12 days
B. 15 days
C. 16 days
D. 18 days

Answer: Option **B**

Explanation:

A's 2 day's work = $\left(\frac{1}{20} \times 2\right) = \frac{1}{10}$.

(A + B + C)'s 1 day's work = $\left(\frac{1}{20} + \frac{1}{30} + \frac{1}{60}\right) = \frac{6}{60} = \frac{1}{10}$.

Work done in 3 days = $\left(\frac{1}{10} + \frac{1}{10}\right) = \frac{1}{5}$.

Now, $\frac{1}{5}$ work is done in 3 days.

∴ Whole work will be done in (3 x 5) = 15 days.

68. Robert is travelling on his cycle and has calculated to reach point A at 2 P.M. if he travels at 10 kmph, he will reach there at 12 noon if he travels at 15 kmph. At what speed must he travel to reach A at 1 P.M.?

A. 8 kmph
B. 11 kmph
C. 12 kmph
D. 14 kmph

Answer: Option **C**

Explanation:

Let the distance travelled by x km.

Then, $\frac{x}{10} - \frac{x}{15} = 2$

$\Rightarrow 3x - 2x = 60$

$\Rightarrow x = 60$ km.

Time taken to travel 60 km at 10 km/hr = $\left(\frac{60}{10}\right)$hrs = 6 hrs.

So, Robert started 6 hours before 2 P.M. *i.e.*, at 8 A.M.

∴ Required speed = $\left(\frac{60}{5}\right)$kmph. = 12 kmph.

69. A man rows to a place 48 km distant and come back in 14 hours. He finds that he can row 4 km with the stream in the same time as 3 km against the stream. The rate of the stream is:

A. 1 km/hr
B. 1.5 km/hr
C. 2 km/hr
D. 2.5 km/hr

Answer: Option **A**

Explanation:

Suppose he move 4 km downstream in x hours. Then,

Speed downstream = $\left(\frac{4}{x}\right)$ km/hr.

Speed upstream = $\left(\frac{3}{x}\right)$ km/hr.

$\therefore \frac{48}{(4/x)} + \frac{48}{(3/x)} = 14$ or $x = \frac{1}{2}$.

So, Speed downstream = 8 km/hr, Speed upstream = 6 km/hr.

Rate of the stream = $\frac{1}{2}(8 - 6)$ km/hr = 1 km/hr.

70. In what ratio must a grocer mix two varieties of pulses costing Rs. 15 and Rs. 20 per kg respectively so as to get a mixture worth Rs. 16.50 kg?

A. 3 : 7 B. 5 : 7

C. 7 : 3 D. 7 : 5

Answer: Option **C**

Explanation:

By the rule of alligation:

Cost of 1 kg pulses of 1st kind		Cost of 1 kg pulses of 2nd kind
Rs. 15	Mean Price Rs. 16.50	Rs. 20
3.50		1.50

$\therefore$ Required rate = 3.50 : 1.50 = 7 : 3.

71. If $\log \frac{a}{b} + \log \frac{b}{a} = \log (a + b)$, then:

A. $a + b = 1$ B. $a - b = 1$

C. $a = b$

D. $a^2 - b^2 = 1$

Answer: Option **A**

Explanation:

$$\log \frac{a}{b} + \log \frac{b}{a} = \log (a + b)$$

$$\Rightarrow \log (a + b) = \log\left(\frac{a}{b} \times \frac{b}{a}\right) = \log 1.$$

So, $a + b = 1$.

72. In a race of 200 m, A can beat B by 31 m and C by 18 m. In a race of 350 m, C will beat B by:

A. 22.75 m

B. 25 m

C. 19.5 m

D. $7\frac{4}{7}$ m

Answer: Option **B**

Explanation:

A : B = 200 : 169.

A : C = 200 : 182.

$$\frac{C}{B} = \left(\frac{C}{A} \times \frac{A}{B}\right) = \left(\frac{182}{200} \times \frac{200}{169}\right) = 182 : 169.$$

When C covers 182 m, B covers 169 m.

When C covers 350 m, B covers $\left(\frac{169}{182} \times 350\right)$ m = 325 m.

Therefore, C beats B by (350 - 325) m = 25 m.

73. **If 6th March, 2005 is Monday,** what was the day of the week on 6th March, 2004?

A. Sunday
B. Saturday
C. Tuesday
D. Wednesday

Answer: Option **A**

Explanation:

The year 2004 is a leap year. So, it has 2 odd days.

But, Feb 2004 not included because we are calculating from March 2004 to March 2005. So it has 1 odd day only.

∴ The day on 6^{th} March, 2005 will be 1 day beyond the day on 6^{th} March, 2004.

Given that, 6^{th} March, 2005 is Monday.

∴ 6^{th} March, 2004 is Sunday (1 day before to 6^{th} March, 2005).

74. An accurate clock shows 8 o'clock in the morning. Through how may degrees will the hour hand rotate when the clock shows 2 o'clock in the afternoon?

A. 144^o
B. 150^o
C. 168^o
D. 180^o

Answer: Option **D**

Explanation:

Angle traced by the hour hand in 6 hours = $\left(\frac{360}{12} \times 6\right)^o = 180^o$.

75. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through:

A. 145^o
B. 150^o
C. 155^o
D. 160^o

Answer: Option **C**

Explanation:

Angle traced by hour hand in 12 hrs = 360^o.

Angle traced by hour hand in 5 hrs 10 min. *i.e.*, $\frac{31}{6}$ hrs = $\left(\frac{360}{12} \times \frac{31}{6}\right)^{o}$ = 155º.

76. The market value of a 10.5% stock, in which an income of Rs. 756 is derived by investing Rs. 9000, brokerage being $\frac{1}{4}$%, is:

A. Rs. 108.25 B. Rs. 112.20

C. Rs. 124.75 D. Rs. 125.25

Answer: Option **C**

Explanation:

For an income of Rs. 756, investment = Rs. 9000.

For an income of Rs. $\frac{21}{2}$, investment = Rs. $\left(\frac{9000}{756} \times \frac{21}{2}\right)$ = Rs. 125.

$\therefore$ For a Rs. 100 stock, investment = Rs. 125.

Market value of Rs. 100 stock = Rs. $\left(125 - \frac{1}{4}\right)$ = Rs. 124.75

77. From a pack of 52 cards, two cards are drawn together at random. What is the probability of both the cards being kings?

A. $\frac{1}{15}$ B. $\frac{25}{57}$

C. $\frac{35}{256}$ D. $\frac{1}{221}$

Answer: Option **D**

Explanation:

Let S be the sample space.

Then, $n(S) = {}^{52}C_2 = \frac{(52 \times 51)}{(2 \times 1)} = 1326.$

Let E = event of getting 2 kings out of 4.

$\therefore\ n(E) = {}^{4}C_2 = \frac{(4 \times 3)}{(2 \times 1)} = 6.$

$\therefore\ P(E) = \frac{n(E)}{n(S)} = \frac{6}{1326} = \frac{1}{221}.$

78. One card is drawn at random from a pack of 52 cards. What is the probability that the card drawn is a face card (Jack, Queen and King only)?

A. $\frac{1}{13}$ B. $\frac{3}{13}$

C. $\frac{1}{4}$ D. $\frac{9}{52}$

Answer: Option **B**

Explanation:

Clearly, there are 52 cards, out of which there are 12 face cards.

$\therefore\ P$ (getting a face card) $= \frac{12}{52} = \frac{3}{13}.$

79. The true discount on Rs. 2562 due 4 months hence is Rs. 122. The rate percent is:

A. 12% B. $13\frac{1}{3}\%$

C. 15% D. 14%

Answer: Option **C**

Explanation:

P.W. = Rs. (2562 - 122) = Rs. 2440.

∴ S.I. on Rs. 2440 for 4 months is Rs. 122.

∴ Rate = $\left[\frac{100 \times 122}{2440 \times \frac{1}{3}}\right]\%$ = 15%.

Direction (for Q.No. 80):

Find out the wrong number in the given sequence of numbers.

80. 22, 33, 66, 99, 121, 279, 594

A. 33 B. 121

C. 279 D. 594

Answer: Option **C**

Explanation:

Each of the number except 279 is a multiple of 11.

81. Two trains running in opposite directions cross a man standing on the platform in 27 seconds and 17 seconds respectively and they cross each other in 23 seconds. The ratio of their speeds is:

A. 1 : 3 B. 3 : 2

C. 3 : 4 D. None of these

Answer: Option **B**

Explanation:

Let the speeds of the two trains be *x* m/sec and y m/sec respectively.

Then, length of the first train = 27*x* metres,

and length of the second train = 17*y* metres.

∴ $27x + 17y = 23$

$x+y$

$\Rightarrow 27x + 17y = 23x + 23y$

$\Rightarrow 4x = 6y$

$\Rightarrow \frac{x}{y} = \frac{3}{2}.$

82. A train overtakes two persons walking along a railway track. The first one walks at 4.5 km/hr. The other one walks at 5.4 km/hr. The train needs 8.4 and 8.5 seconds respectively to overtake them. What is the speed of the train if both the persons are walking in the same direction as the train?

A. 66 km/hr
B. 72 km/hr
C. 78 km/hr
D. 81 km/hr

Answer: Option **D**

Explanation:

4.5 km/hr = $\left(4.5 \times \frac{5}{18}\right)$ m/sec = $\frac{5}{4}$ m/sec = 1.25 m/sec, and

5.4 km/hr = $\left(5.4 \times \frac{5}{18}\right)$ m/sec = $\frac{3}{2}$ m/sec = 1.5 m/sec.

Let the speed of the train be x m/sec.

Then, $(x - 1.25) \times 8.4 = (x - 1.5) \times 8.5$

$\Rightarrow 8.4x - 10.5 = 8.5x - 12.75$

$\Rightarrow 0.1x = 2.25$

$\Rightarrow x = 22.5$

$\therefore$ Speed of the train = $\left(22.5 \times \frac{18}{5}\right)$ km/hr = 81 km/hr.

83. A runs $1\frac{2}{3}$ times as fast as B. If A gives B a start of 80 m, how far must the winning post be so that A and B might reach it at the same time?

A. 200 m

B. 300 m

C. 270 m

D. 160 m

Answer: Option **A**

Explanation:

Ratio of the speeds of A and B = $\frac{5}{3}$: 1 = 5 : 3.

Thus, in race of 5 m, A gains 2 m over B.

2 m are gained by A in a race of 5 m.

80 m will be gained by A in race of $\left(\frac{5}{2} \times 80\right)$m = 200 m.

∴ Winning post is 200 m away from the starting point.

84. Q is as much younger than R as he is older than T. If the sum of the ages of R and T is 50 years, what is definitely the difference between R and Q's age?

A. 1 year

B. 2 years

C. 25 years

D. Data inadequate

E. None of these

Answer: Option **D**

Explanation:

Given that:

1. The difference of age b/w R and Q = The difference of age b/w Q and T.

2. Sum of age of R and T is 50 i.e. (R + T) = 50.

Question: R - Q = ?.

Explanation:

R - Q = Q - T

(R + T) = 2Q

Now given that, (R + T) = 50

So, 50 = 2Q and therefore Q = 25.

Question is (R - Q) = ?

Here we know the value(age) of Q (25), but we don't know the age of R.

Therefore, (R-Q) cannot be determined.

85. The value of $\log_2 16$ is:

A. $\frac{1}{8}$ B. 4

C. 8 D. 16

Answer: Option **B**

Explanation:

Let $\log_2 16 = n$.

Then, $2^n = 16 = 2^4 \Rightarrow n = 4$.

$\therefore \log_2 16 = 4$.

86. In a two-digit, if it is known that its unit's digit exceeds its ten's digit by 2 and that the product of the given number and the sum of its digits is equal to 144, then the number is:

A. 24 B. 26

C. 42 D. 46

Answer: Option **A**

Explanation:

Let the ten's digit be x.

Then, unit's digit = $x + 2$.

Number = $10x + (x + 2) = 11x + 2$.

Sum of digits = $x + (x + 2) = 2x + 2$.

$\therefore$ $(11x + 2)(2x + 2) = 144$

$\Rightarrow 22x^2 + 26x - 140 = 0$

$\Rightarrow 11x^2 + 13x - 70 = 0$

$\Rightarrow (x - 2)(11x + 35) = 0$

$\Rightarrow x = 2$.

Hence, required number = $11x + 2 = 24$.

87. The square root of 64009 is:

A. 253 B. 347

C. 363 D. 803

Answer: Option **A**

Explanation:

```
  2|64009( 253
   |4
   |----------
 45|240
   |225
   |----------
503|  1509
   |  1509
   |----------
   |    X
   |----------
```

$\therefore$ 64009 = 253.

88. What should come in place of both x in the equation $\frac{x}{128} = \frac{162}{x}$.

A. 12 B. 14

C. 144 D. 196

Answer: Option **A**

Explanation:

Let $\frac{x}{128} = \frac{162}{x}$

Then $x^2 = 128 \times 162$

$= 64 \times 2 \times 18 \times 9$

$= 8^2 \times 6^2 \times 3^2$

$= 8 \times 6 \times 3$

$= 144.$

$\therefore x = 144 = 12.$

89. A, B and C can do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on every third day?

A. 12 days

B. 15 days

C. 16 days

D. 18 days

Answer: Option **B**

Explanation:

A's 2 day's work = $\left(\frac{1}{20} \times 2\right) = \frac{1}{10}$.

(A + B + C)'s 1 day's work = $\left(\frac{1}{20} + \frac{1}{30} + \frac{1}{60}\right) = \frac{6}{60} = \frac{1}{10}$.

Work done in 3 days = $\left(\frac{1}{10} + \frac{1}{10}\right) = \frac{1}{5}$.

Now, $\frac{1}{5}$ work is done in 3 days.

$\therefore$ Whole work will be done in (3 x 5) = 15 days.

90. The value of $\frac{489.1375 \times 0.0483 \times 1.956}{0.0873 \times 92.581 \times 99.749}$ is closest to:

A. 0.006 B. 0.06

C. 0.6 D. 6

Answer: Option **B**

Explanation:

$$\frac{489.1375 \times 0.0483 \times 1.956}{0.0873 \times 92.581 \times 99.749} \approx \frac{489 \times 0.05 \times 2}{0.09 \times 93 \times 100}$$

$$= \frac{489}{9 \times 93 \times 10}$$

$$= \frac{163}{279} \times \frac{1}{10}$$

$$= \frac{0.58}{10}$$

$$= 0.058 \approx 0.06.$$

91. Three number are in the ratio of 3 : 4 : 5 and their L.C.M. is 2400. Their H.C.F. is:

A. 40 B. 80

C. 120 D. 200

Answer: Option **A**

Explanation:

Let the numbers be 3*x*, 4*x* and 5*x*.

Then, their L.C.M. = 60*x*.

So, 60*x* = 2400 or x = 40.

∴ The numbers are (3 x 40), (4 x 40) and (5 x 40).

Hence, required H.C.F. = 40.

92. Which of the following fraction is the largest ?

A. $\frac{7}{8}$ B. $\frac{13}{16}$

C. $\frac{31}{40}$ D. $\frac{63}{80}$

Answer: Option **A**

Explanation:

L.C.M. of 8, 16, 40 and 80 = 80.

$\frac{7}{8} = \frac{70}{80}$; $\frac{13}{16} = \frac{65}{80}$; $\frac{31}{40} = \frac{62}{80}$

Since, $\frac{70}{80} > \frac{65}{80} > \frac{63}{80} > \frac{62}{80}$, so $\frac{7}{8} > \frac{13}{16} > \frac{63}{80} > \frac{31}{40}$

So, $\frac{7}{8}$ is the largest.

93. A sum of Rs. 725 is lent in the beginning of a year at a certain rate of interest. After 8 months, a sum of Rs. 362.50 more is lent but at the rate twice the former. At the end of the year, Rs. 33.50 is earned as interest from both the loans. What was the original rate of interest?

A. 3.6% B. 4.5%

C. 5% D. 6%

E. None of these

Answer: Option **E**

Explanation:

Let the original rate be R%. Then, new rate = (2R)%.

Note:

Here, original rate is for 1 year(s); the new rate is for only 4 months i.e. $\frac{1}{3}$ year(s).

$$\therefore \left(\frac{725 \times R \times 1}{100}\right) + \left(\frac{362.50 \times 2R \times 1}{100 \times 3}\right) = 33.50$$

$$\Rightarrow (2175 + 725)\, R = 33.50 \times 100 \times 3$$

$$\Rightarrow (2175 + 725)\, R = 10050$$

$$\Rightarrow (2900)R = 10050$$

$$\Rightarrow R = \frac{10050}{2900} = 3.46$$

$\therefore$ Original rate = 3.46%

94. An accurate clock shows 8 o'clock in the morning. Through how may degrees will the hour hand rotate when the clock shows 2 o'clock in the afternoon?

A. 144^o B. 150^o

C. 168^o D. 180^o

Answer: Option **D**

Explanation:

Angle traced by the hour hand in 6 hours = $\left(\frac{360}{12} \times 6\right)^o = 180^o$.

95. From a group of 7 men and 6 women, five persons are to be selected to form a committee so that at least 3 men are there on the committee. In how many ways can it be done?

A. 564 B. 645

C. 735 D. 756

E. None of these

Answer: Option **D**

Explanation:

We may have (3 men and 2 women) or (4 men and 1 woman) or (5 men only).

∴ Required number of ways $= ({}^7C_3 \times {}^6C_2) + ({}^7C_4 \times {}^6C_1) + ({}^7C_5)$

$$= \left(\frac{7 \times 6 \times 5}{3 \times 2 \times 1} \times \frac{6 \times 5}{2 \times 1}\right) + ({}^7C_3 \times {}^6C_1) + ({}^7C_2)$$

$$= 525 + \left(\frac{7 \times 6 \times 5}{3 \times 2 \times 1} \times 6\right) + \left(\frac{7 \times 6}{2 \times 1}\right)$$

$$= (525 + 210 + 21)$$

$$= 756.$$

96. A dishonest milkman professes to sell his milk at cost price but he mixes it with water and thereby gains 25%. The percentage of water in the mixture is:

A. 4%

B. $6\frac{1}{4}\%$

C. 20%

D. 25%

Answer: Option **C**

Explanation:

Let C.P. of 1 litre milk be Re. 1

Then, S.P. of 1 litre of mixture = Re. 1, Gain = 25%.

C.P. of 1 litre mixture = Re. $\left(\frac{100}{125} \times 1\right) = \frac{4}{5}$

By the rule of alligation, we have:

C.P. of 1 litre of milkC.P. of 1 litre of water

Re. 1	Mean Price	0
$4\frac{}{5}$	Re. $4\frac{}{5}$	$1\frac{}{5}$

$\therefore$ Ratio of milk to water = $4\frac{}{5} : 1\frac{}{5}$ = 4 : 1.

Hence, percentage of water in the mixture = $\left(\frac{1}{5} \times 100\right)\%$ = 20%.

---

97. A vessel is filled with liquid, 3 parts of which are water and 5 parts syrup. How much of the mixture must be drawn off and replaced with water so that the mixture may be half water and half syrup?

A. $1\frac{}{3}$ B. $1\frac{}{4}$

C. $1\frac{}{5}$ D. $1\frac{}{7}$

Answer: Option **C**

Explanation:

Suppose the vessel initially contains 8 litres of liquid.

Let x litres of this liquid be replaced with water.

Quantity of water in new mixture = $\left(3 - \frac{3x}{8} + x\right)$ litres

Quantity of syrup in new mixture = $\left(5 - \frac{5x}{8}\right)$ litres

$\therefore \left(3 - \frac{3x}{8} + x\right) = \left(5 - \frac{5x}{8}\right)$

$\Rightarrow 5x + 24 = 40 - 5x$

$\Rightarrow 10x = 16$

$\Rightarrow x = \frac{8}{5}$.

So, part of the mixture replaced = $\left(\frac{8}{5} \times \frac{1}{8}\right) = \frac{1}{5}$.

98. The cost price of a Rs. 100 stock at 4 discount, when brokerage is $\frac{1}{4}\%$ is:

A. Rs. 95.75
B. Rs. 96
C. Rs. 96.25
D. Rs. 104.25

Answer: Option **C**

Explanation:

C.P. = Rs. $\left(100 - 4 + \frac{1}{4}\right)$ = Rs. 96.25

99. If 40% of a number is equal to two-third of another number, what is the ratio of first number to the second number?

A. 2 : 5
B. 3 : 7
C. 5 : 3
D. 7 : 3

Answer: Option **C**

Explanation:

Let 40% of A = $\frac{2}{3}$ B

Then, $\frac{40A}{100} = \frac{2B}{3}$

$\Rightarrow \frac{2A}{5} = \frac{2B}{3}$

$\Rightarrow \frac{A}{B} = \left(\frac{2}{3} \times \frac{5}{2}\right) = \frac{5}{3}$

$\therefore$ A : B = 5 : 3.

100. In a bag, there are coins of 25 p, 10 p and 5 p in the ratio of 1 : 2 : 3. If there is Rs. 30 in all, how many 5 p coins are there?

A. 50 B. 100

C. 150 D. 200

Answer: Option **C**

Explanation:

Let the number of 25 p, 10 p and 5 p coins be x, $2x$, $3x$ respectively.

Then, sum of their values = Rs. $\left(\frac{25x}{100} + \frac{10 \times 2x}{100} + \frac{5 \times 3x}{100}\right)$ = Rs. $\frac{60x}{100}$

$\therefore \frac{60x}{100} = 30 \Leftrightarrow x = \frac{30 \times 100}{60} = 50.$

Hence, the number of 5 p coins = (3 x 50) = 150.

101. A fires 5 shots to B's 3 but A kills only once in 3 shots while B kills once in 2 shots. When B has missed 27 times, A has killed:

A. 30 birds B. 60 birds

C. 72 birds D. 90 birds

Answer: Option **A**

Explanation:

Let the total number of shots be x. Then,

Shots fired by A = $5x$

8

3

Shots fired by B = $\frac{}{8}x$

Killing shots by A = $\frac{1}{3}$ of $\frac{5}{8}x = \frac{5}{24}x$

Shots missed by B = $\frac{1}{2}$ of $\frac{3}{8}x = \frac{3}{16}x$

$\therefore \frac{3x}{16} = 27$ or $x = \left(\frac{27 \times 16}{3}\right) = 144.$

Birds killed by A = $\frac{5x}{24} = \left(\frac{5}{24} \times 144\right) = 30.$

---

102. Six years ago, the ratio of the ages of Kunal and Sagar was 6 : 5. Four years hence, the ratio of their ages will be 11 : 10. What is Sagar's age at present?

A. 16 years

B. 18 years

C. 20 years

D. Cannot be determined

E. None of these

Answer: Option **A**

Explanation:

Let the ages of Kunal and Sagar 6 years ago be $6x$ and $5x$ years respectively.

Then, $\frac{(6x + 6) + 4}{(5x + 6) + 4} = \frac{11}{10}$

$\Rightarrow 10(6x + 10) = 11(5x + 10)$

$\Rightarrow 5x = 10$

$\Rightarrow x = 2.$

$\therefore$ Sagar's present age = $(5x + 6) = 16$ years.

---

103. Q is as much younger than R as he is older than T. If the sum of the ages of R and T is 50 years, what is definitely the difference between R and Q's age?

A. 1 year
B. 2 years
C. 25 years
D. Data inadequate
E. None of these

Answer: Option **D**

Explanation:

Given that:

1. The difference of age b/w R and Q = The difference of age b/w Q and T.

2. Sum of age of R and T is 50 i.e. (R + T) = 50.

Question: R - Q = ?.

Explanation:

R - Q = Q - T

(R + T) = 2Q

Now given that, (R + T) = 50

So, 50 = 2Q and therefore Q = 25.

Question is (R - Q) = ?

Here we know the value(age) of Q (25), but we don't know the age of R.

Therefore, (R-Q) cannot be determined.

104. $\frac{1}{1 + x^{(b-a)} + x^{(c-a)}} + \frac{1}{1 + x^{(a-b)} + x^{(c-b)}} + \frac{1}{1 + x^{(b-c)} + x^{(a-c)}} = ?$

A. 0
B. 1

C. x^{a-b-c}

D. None of these

Answer: Option **B**

Explanation:

Given Exp. $= \dfrac{1}{\left(1 + \dfrac{x^b}{x^a} + \dfrac{x^c}{x^a}\right)} + \dfrac{1}{\left(1 + \dfrac{x^a}{x^b} + \dfrac{x^c}{x^b}\right)} + \dfrac{1}{\left(1 + \dfrac{x^b}{x^c} + \dfrac{x^a}{x^c}\right)}$

$= \dfrac{x^a}{(x^a + x^b + x^c)} + \dfrac{x^b}{(x^a + x^b + x^c)} + \dfrac{x^c}{(x^a + x^b + x^c)}$

$= \dfrac{(x^a + x^b + x^c)}{(x^a + x^b + x^c)}$

$= 1.$

2

105. $\dfrac{1}{1 + a^{(n-m)}} + \dfrac{1}{1 + a^{(m-n)}} = ?$

A. 0

B. $\dfrac{1}{2}$

C. 1

D. a^{m+n}

Answer: Option **C**

Explanation:

$\dfrac{1}{1 + a^{(n-m)}} + \dfrac{1}{1 + a^{(m-n)}} = \dfrac{1}{\left(1 + \dfrac{a^n}{a^m}\right)} + \dfrac{1}{\left(1 + \dfrac{a^m}{a^n}\right)}$

$= \dfrac{a^m}{\quad} + \dfrac{a^n}{\quad}$

$(a^m + a^n)$ $(a^m + a^n)$

$$= \frac{(a^m + a^n)}{(a^m + a^n)}$$

$= 1.$

106. Simran started a software business by investing Rs. 50,000. After six months, Nanda joined her with a capital of Rs. 80,000. After 3 years, they earned a profit of Rs. 24,500. What was Simran's share in the profit?

A. Rs. 9,423
B. Rs. 10,250
C. Rs. 12,500
D. Rs. 10,500

Answer: Option **D**

Explanation:

Simran : Nanda = (50000 x 36) : (80000 x 30) = 3 : 4.

$\therefore$ Simran's share = Rs. $\left(24500 \times \frac{3}{7}\right)$ = Rs. 10,500.

107. A, B and C can do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on every third day?

A. 12 days
B. 15 days
C. 16 days
D. 18 days

Answer: Option **B**

Explanation:

A's 2 day's work = $\left(\frac{1}{20} \times 2\right) = \frac{1}{10}$.

(A + B + C)'s 1 day's work = $\left(\frac{1}{20} + \frac{1}{30} + \frac{1}{60}\right) = \frac{6}{60} = \frac{1}{10}$.

Work done in 3 days = $\left(\frac{1}{} + \frac{1}{}\right) = 1.$

10 10 5

Now, $\frac{1}{5}$ work is done in 3 days.

∴ Whole work will be done in (3 x 5) = 15 days.

108. Robert is travelling on his cycle and has calculated to reach point A at 2 P.M. if he travels at 10 kmph, he will reach there at 12 noon if he travels at 15 kmph. At what speed must he travel to reach A at 1 P.M.?

A. 8 kmph
B. 11 kmph
C. 12 kmph
D. 14 kmph

Answer: Option **C**

Explanation:

Let the distance travelled by *x* km.

Then, $\frac{x}{10} - \frac{x}{15} = 2$

$\Rightarrow 3x - 2x = 60$

$\Rightarrow x = 60$ km.

Time taken to travel 60 km at 10 km/hr = $\left(\frac{60}{10}\right)$hrs = 6 hrs.

So, Robert started 6 hours before 2 P.M. *i.e.,* at 8 A.M.

∴ Required speed = $\left(\frac{60}{5}\right)$kmph. = 12 kmph.

109. A man rows to a place 48 km distant and come back in 14 hours. He finds that he can row 4 km with the stream in the same time as 3 km against the stream. The rate of the stream is:

A. 1 km/hr
B. 1.5 km/hr

C. 2 km/hr

D. 2.5 km/hr

Answer: Option **A**

Explanation:

Suppose he move 4 km downstream in x hours. Then,

Speed downstream = $\left(\frac{4}{x}\right)$ km/hr.

Speed upstream = $\left(\frac{3}{x}\right)$ km/hr.

$\therefore \frac{48}{(4/x)} + \frac{48}{(3/x)} = 14$ or $x = \frac{1}{2}$.

So, Speed downstream = 8 km/hr, Speed upstream = 6 km/hr.

Rate of the stream = $\frac{1}{2}(8 - 6)$ km/hr = 1 km/hr.

110. In what ratio must a grocer mix two varieties of pulses costing Rs. 15 and Rs. 20 per kg respectively so as to get a mixture worth Rs. 16.50 kg?

A. 3 : 7

B. 5 : 7

C. 7 : 3

D. 7 : 5

Answer: Option **C**

Explanation:

By the rule of alligation:

Cost of 1 kg pulses of 1st kind		Cost of 1 kg pulses of 2nd kind
Rs. 15	Mean Price Rs. 16.50	Rs. 20
3.50		1.50

∴ Required rate = 3.50 : 1.50 = 7 : 3.

111. If $\log \frac{a}{b} + \log \frac{b}{a} = \log (a + b)$, then:

A. $a + b = 1$

B. $a - b = 1$

C. $a = b$

D. $a^2 - b^2 = 1$

Answer: Option **A**

Explanation:

$\log \frac{a}{b} + \log \frac{b}{a} = \log (a + b)$

$\Rightarrow \log (a + b) = \log\left(\frac{a}{b} \times \frac{b}{a}\right) = \log 1.$

So, $a + b = 1$.

112. In a race of 200 m, A can beat B by 31 m and C by 18 m. In a race of 350 m, C will beat B by:

A. 22.75 m

B. 25 m

C. 19.5 m

D. $7\frac{4}{7}$ m

Answer: Option **B**

Explanation:

A : B = 200 : 169.

A : C = 200 : 182.

$\frac{C}{B} = \left(\frac{C}{A} \times \frac{A}{B}\right) = \left(\frac{182}{200} \times \frac{200}{169}\right) = 182 : 169.$

When C covers 182 m, B covers 169 m.

When C covers 350 m, B covers $\left(\frac{169}{182} \times 350\right)$ m = 325 m.

Therefore, C beats B by (350 - 325) m = 25 m.

113. **If 6th March, 2005 is Monday,** what was the day of the week on 6th March, 2004?

A. Sunday
B. Saturday
C. Tuesday
D. Wednesday

Answer: Option **A**

Explanation:

The year 2004 is a leap year. So, it has 2 odd days.

But, Feb 2004 not included because we are calculating from March 2004 to March 2005. So it has 1 odd day only.

∴ The day on 6th March, 2005 will be 1 day beyond the day on 6th March, 2004.

Given that, 6th March, 2005 is Monday.

∴ 6th March, 2004 is Sunday (1 day before to 6th March, 2005).

114. An accurate clock shows 8 o'clock in the morning. Through how may degrees will the hour hand rotate when the clock shows 2 o'clock in the afternoon?

A. 144º
B. 150º
C. 168º
D. 180º

Answer: Option **D**

Explanation:

Angle traced by the hour hand in 6 hours = $\left(\frac{360}{12} \times 6\right)^{o}$ = 180º.

115. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through:

A. 145^o B. 150^o

C. 155^o D. 160^o

Answer: Option **C**

Explanation:

Angle traced by hour hand in 12 hrs = 360^o.

Angle traced by hour hand in 5 hrs 10 min. *i.e.*, $\frac{31}{6}$ hrs = $\left(\frac{360}{12} \times \frac{31}{6}\right)^o = 155^o$.

116. The market value of a 10.5% stock, in which an income of Rs. 756 is derived by investing Rs. 9000, brokerage being $\frac{1}{4}$%, is:

A. Rs. 108.25 B. Rs. 112.20

C. Rs. 124.75 D. Rs. 125.25

Answer: Option **C**

Explanation:

For an income of Rs. 756, investment = Rs. 9000.

For an income of Rs. $\frac{21}{2}$, investment = Rs. $\left(\frac{9000}{756} \times \frac{21}{2}\right)$ = Rs. 125.

$\therefore$ For a Rs. 100 stock, investment = Rs. 125.

Market value of Rs. 100 stock = Rs. $\left(125 - \frac{1}{4}\right)$ = Rs. 124.75

117. From a pack of 52 cards, two cards are drawn together at random. What is the probability of both the cards being kings?

A. $\frac{1}{15}$ B. $\frac{25}{57}$

C. $\frac{35}{256}$ D. $\frac{1}{221}$

Answer: Option **D**

Explanation:

Let S be the sample space.

Then, $n(S) = {}^{52}C_2 = \frac{(52 \times 51)}{(2 \times 1)} = 1326.$

Let E = event of getting 2 kings out of 4.

$\therefore\ n(E) = {}^{4}C_2 = \frac{(4 \times 3)}{(2 \times 1)} = 6.$

$\therefore\ P(E) = \frac{n(E)}{n(S)} = \frac{6}{1326} = \frac{1}{221}.$

118. One card is drawn at random from a pack of 52 cards. What is the probability that the card drawn is a face card (Jack, Queen and King only)?

A. $\frac{1}{13}$ B. $\frac{3}{13}$

C. $\frac{1}{4}$ D. $\frac{9}{52}$

Answer: Option **B**

Explanation:

Clearly, there are 52 cards, out of which there are 12 face cards.

$\therefore\ P$ (getting a face card) $= \frac{12}{52} = \frac{3}{13}.$

119. The true discount on Rs. 2562 due 4 months hence is Rs. 122. The rate percent is:

A. 12%

B. $13\frac{1}{3}\%$

C. 15%

D. 14%

Answer: Option **C**

Explanation:

P.W. = Rs. (2562 - 122) = Rs. 2440.

∴ S.I. on Rs. 2440 for 4 months is Rs. 122.

∴ Rate = $\left[\frac{100 \times 122}{2440 \times \frac{1}{3}}\right]\% = 15\%$.

Direction (for Q.No. 120):

Find out the wrong number in the given sequence of numbers.

120. 22, 33, 66, 99, 121, 279, 594

A. 33

B. 121

C. 279

D. 594

Answer: Option **C**

Explanation:

Each of the number except 279 is a multiple of 11.

Direction (for Q.No. 121):

Each of these questions is followed by three statements. You have to study the question and all the three statements given to decide whether any information provided in the statement(s) is redundant and can be dispensed with while answering the given question.

121. What is the area of the given rectangle?

I. Perimeter of the rectangle is 60 cm.

II. Breadth of the rectangle is 12 cm.

III. Sum of two adjacent sides is 30 cm.

A. I only

B. II only

C. I and II only

D. II and III only

E. II and either I or III

Answer: Option **E**

Explanation:

From I and II, we can find the length and breadth of the rectangle and therefore the area can be obtained.

So, III is redundant.

Also, from II and III, we can find the length and breadth and therefore the area can be obtained.

So, I is redundant.

∴ Correct answer is "II and either I or III".

122. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through:

A. 145º B. 150º

C. 155º D. 160º

Answer: Option **C**

Explanation:

Angle traced by hour hand in 12 hrs = 360º.

Angle traced by hour hand in 5 hrs 10 min. *i.e.*, $\frac{31}{6}$ hrs = $\left(\frac{360}{12} \times \frac{31}{6}\right)^{\circ}$ = 155º.

123. In how many ways can the letters of the word 'LEADER' be arranged?

A. 72 B. 144

C. 360 D. 720

E. None of these

Answer: Option **C**

Explanation:

The word 'LEADER' contains 6 letters, namely 1L, 2E, 1A, 1D and 1R.

∴ Required number of ways = $\frac{6!}{(1!)(2!)(1!)(1!)(1!)}$ = 360.

124. Out of 7 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed?

A. 210 B. 1050

C. 25200 D. 21400

E. None of these

Answer: Option **C**

Explanation:

Number of ways of selecting (3 consonants out of 7) and (2 vowels out of 4)

$= ({}^{7}C_3 \times {}^{4}C_2)$

$= \left(\frac{7 \times 6 \times 5}{3 \times 2 \times 1} \times \frac{4 \times 3}{2 \times 1}\right)$

$= 210.$

Number of groups, each having 3 consonants and 2 vowels = 210.

Each group contains 5 letters.

Number of ways of arranging 5 letters among themselves $= 5!$

$= 5 \times 4 \times 3 \times 2 \times 1$

$= 120.$

$\therefore$ Required number of ways = (210 x 120) = 25200.

Direction (for Q.No. 125):

Each of the questions given below consists of a question followed by three statements. You have to study the question and the statements and decide which of the statement(s) is/are necessary to answer the question.

125. In a cricket team, the average age of eleven players in 28 years. What is the age of the captain?

I. The captain is eleven years older than the youngest player.

II. The average age of 10 players, other than the captain is 27.3 years.

III. Leaving aside the captain and the youngest player, the average ages of three groups of three players each are 25 years, 28 years and 30 years respectively.

A. Any two of the three
B. All I, II and III
C. II only or I and III only
D. II and III only

E. None of these

Answer: Option **C**

Explanation:

Total age of 11 players = (28 x 11) years = 308 years.

I. C = Y + 11 $\Rightarrow$ C - Y = 11 .... (i)

II. Total age of 10 players (excluding captain) = (27.3 x 10) years = 273 years.

$\therefore$ Age of captain = (308 - 273) years = 35 years.

Thus, C = 35. .... (ii)

From (i) and (ii), we get Y = 24

III. Total age of 9 players = [(25 x 3) + (28 x 3) + (30 x 3)] years = 249 years.

$\therefore$ C + Y = (308 - 249) = 59 .... (iii)

From (i) and (iii), we get C = 35.

Thus, II alone gives the answer.

Also, I and III together give the answer.

$\therefore$ Correct answer is (C).

126. The H.C.F. of two numbers is 11 and their L.C.M. is 7700. If one of the numbers is 275, then the other is:

A. 279 B. 283

C. 308 D. 318

Answer: Option **C**

Explanation:

Other number = $\left(\frac{11 \times 7700}{275}\right)$ = 308.

Learn more problems on : Problems on H.C.F and L.C.M

Discuss about this problem : Discuss in Forum

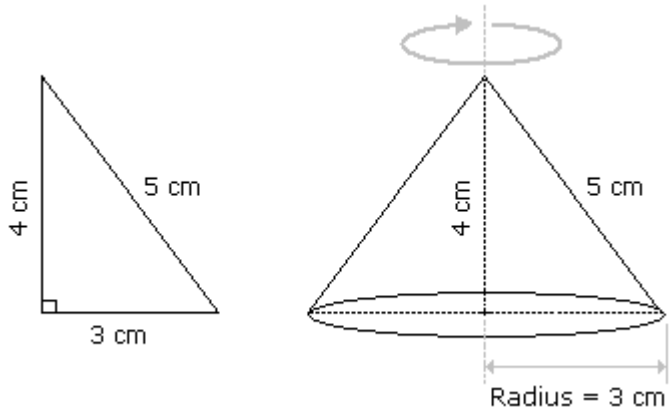
127. A right triangle with sides 3 cm, 4 cm and 5 cm is rotated the side of 3 cm to form a cone. The volume of the cone so formed is:

A. 12π cm^3 B. 15π cm^3

C. 16π cm^3 D. 20π cm^3

Answer: Option **A**

Explanation:



Clearly, we have $r = 3$ cm and $h = 4$ cm.

$\therefore$ Volume $= \frac{1}{3}\pi r^2 h = \left(\frac{1}{3} \times \pi \times 3^2 \times 4\right) cm^3 = 12\pi$ cm^3.

128. A man has some hens and cows. If the number of heads be 48 and the number of feet equals 140, then the number of hens will be:

A. 22 B. 23

C. 24 D. 26

Answer: Option **D**

Explanation:

Let the number of hens be x and the number of cows be y.

Then, $x + y = 48$ .... (i)

and $2x + 4y = 140 \Rightarrow x + 2y = 70$ .... (ii)

Solving (i) and (ii) we get: $x = 26$, $y = 22$.

$\therefore$ The required answer = 26.

129. $(256)^{0.16} \times (256)^{0.09} = ?$

A. 4 B. 16

C. 64 D. 256.25

Answer: Option **A**

Explanation:

$(256)^{0.16} \times (256)^{0.09} = (256)^{(0.16 + 0.09)}$

$= (256)^{0.25}$

$= (256)^{(25/100)}$

$= (256)^{(1/4)}$

$= (4^4)^{(1/4)}$

$= 4^{4(1/4)}$

$= 4^1$

$= 4$

130. In a 200 metres race A beats B by 35 m or 7 seconds. A's time over the course is:

A. 40 sec B. 47 sec

C. 33 sec D. None of these

Answer: Option **C**

Explanation:

B runs 35 m in 7 sec.

$\therefore$ B covers 200 m in $\left(\frac{7}{35} \times 200\right)$ = 40 sec.

B's time over the course = 40 sec.

$\therefore$ A's time over the course (40 - 7) sec = 33 sec.

131. Three candidates contested an election and received 1136, 7636 and 11628 votes respectively. What percentage of the total votes did the winning candidate get?

A. 57% B. 60%

C. 65% D. 90%

Answer: Option **A**

Explanation:

Total number of votes polled = (1136 + 7636 + 11628) = 20400.

$\therefore$ Required percentage = $\left(\frac{11628}{20400} \times 100\right)\% = 57\%$.

Direction (for Q.No. 132):

Find the odd man out.

132. 835, 734, 642, 751, 853, 981, 532

A. 751 B. 853

C. 981 D. 532

Answer: Option **A**

Explanation:

In each number except 751, the difference of third and first digit is the middle one.

Direction (for Q.Nos. 133 - 134):

Find out the wrong number in the given sequence of numbers.

133. 8, 13, 21, 32, 47, 63, 83

A. 47 B. 63

C. 32 D. 83

Answer: Option **A**

Explanation:

Go on adding 5, 8, 11, 14, 17, 20.

So, the number 47 is wrong and must be replaced by 46.

134. 582, 605, 588, 611, 634, 617, 600

A. 634 B. 611

C. 605 D. 600

Answer: Option **A**

Explanation:

Alternatively 23 is added and 17 is subtracted from the terms. So, 634 is wrong.

135. A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for Rs. 3200. With the help of C, they completed the work in 3 days. How much is to be paid to C?

A. Rs. 375 B. Rs. 400

C. Rs. 600 D. Rs. 800

Answer: Option **B**

Explanation:

C's 1 day's work = $\frac{1}{3} - \left(\frac{1}{6} + \frac{1}{8}\right) = \frac{1}{3} - \frac{7}{24} = \frac{1}{24}$.

A's wages : B's wages : C's wages = $\frac{1}{6} : \frac{1}{8} : \frac{1}{24} = 4 : 3 : 1$.

$\therefore$ C's share (for 3 days) = Rs. $\left(3 \times \frac{1}{24} \times 3200\right)$ = Rs. 400.

136. The compound interest on Rs. 30,000 at 7% per annum is Rs. 4347. The period (in years) is:

A. 2 B. $21\frac{}{}$

2

C. 3 D. 4

Answer: Option **A**

Explanation:

Amount = Rs. (30000 + 4347) = Rs. 34347.

Let the time be n years.

Then, $30000 \left(1 + \frac{7}{100}\right)^n = 34347$

$\Rightarrow \left(\frac{107}{100}\right)^n = \frac{34347}{30000} = \frac{11449}{10000} = \left(\frac{107}{100}\right)^2$

$\therefore$ $n = 2$ years.

Direction (for Q.No. 137):

Each of the questions given below consists of a question followed by three statements. You have to study the question and the statements and decide which of the statement(s) is/are necessary to answer the question.

137. What is the speed of the train?

I. The train crosses a tree in 13 seconds.

II. The train crosses a platform of length 250 metres in 27 seconds.

III. The train crosses another train running in the same direction in 32 seconds.

A. I and II only

B. II and III only

C. I and III only

D. Any two of the three

E. None of these

Answer: Option **A**

Explanation:

Let the speed of the train be x metres/sec.

$$\text{Time taken to cross a tree} = \frac{\text{Length of the train}}{\text{Speed of the train}}$$

$$\text{Time taken to cross a platform} = \frac{\text{(Length of the train + Length of the Platform)}}{\text{Speed of the train}}$$

I gives, $13 = \frac{l}{x} \Rightarrow 13x$.

II gives $27 = \frac{l + 250}{x}$

$$\Rightarrow \frac{13x + 250}{x} = 27$$

$$\Rightarrow x = \frac{125}{7} \text{ m/sec.}$$

Thus I and II give the speed of the train.

$\therefore$ The correct answer is (A.)

Direction (for Q.Nos. 138 - 139):

Each of the questions given below consists of a statement and / or a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statement(s) is / are sufficient to answer the given question. Read the both statements and

- Give answer (A) if the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.
- Give answer (B) if the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.
- Give answer (C) if the data either in Statement I or in Statement II alone are sufficient to answer the question.

- Give answer (D) if the data even in both Statements I and II together are not sufficient to answer the question.
- Give answer(E) if the data in both Statements I and II together are necessary to answer the question.

138. What is the capacity of a cylindrical tank?

I. Radius of the base is half of its height which is 28 metres.

II. Area of the base is 616 sq. metres and its height is 28 metres.

A. I alone sufficient while II alone not sufficient to answer

B. II alone sufficient while I alone not sufficient to answer

C. Either I or II alone sufficient to answer

D. Both I and II are not sufficient to answer

E. Both I and II are necessary to answer

Answer: Option **C**

Explanation:

I gives, $h = 28$ m and $r = 14$.

$\therefore$ Capacity = $\pi r^2 h$, which can be obtained.

Thus, I alone gives the answer.

II gives, $\pi r^2 = 616$ m^2 and $h = 28$ m.

$\therefore$ Capacity = $(\pi r^2 \times h) = (616 \times 28)$ m^3.

Thus, II alone gives the answer.

$\therefore$ Correct answer is (C).

139. What is the volume of 32 metre high cylindrical tank?

I. The area of its base is 154 m^2.

II. The diameter of the base is 14 m.

A. I alone sufficient while II alone not sufficient to answer

B. II alone sufficient while I alone not sufficient to answer

C. Either I or II alone sufficient to answer

D. Both I and II are not sufficient to answer

E. Both I and II are necessary to answer

Answer: Option **C**

Explanation:

Given, height = 32 m.

I gives, area of the base = 154 m^2.

$\therefore$ Volume = (Area of the base x Height) = (154 x 32) m^3.

Thus, I alone gives the answer.

II gives, radius of the base = 7 m.

$\therefore$ Volume = $\pi r^2 h = \left(\frac{22}{7} \text{ x } 7 \text{ x } 7 \text{ x } 32\right) m^3 = 4928\ m^3$.

Thus, II alone gives the answer.

$\therefore$ Correct answer is (C).

140. A, B, C subscribe Rs. 50,000 for a business. A subscribes Rs. 4000 more than B and B Rs. 5000 more than C. Out of a total profit of Rs. 35,000, A receives:

A. Rs. 8400 B. Rs. 11,900

C. Rs. 13,600 D. Rs. 14,700

Answer: Option **D**

Explanation:

Let C = *x*.

Then, B = x + 5000 and A = x + 5000 + 4000 = x + 9000.

So, $x + x + 5000 + x + 9000 = 50000$

$\Rightarrow 3x = 36000$

$\Rightarrow x = 12000$

A : B : C = 21000 : 17000 : 12000 = 21 : 17 : 12.

$\therefore$ A's share = Rs. $\left(35000 \times \frac{21}{50}\right)$ = Rs. 14,700.

---

141. The present worth of Rs. 2310 due $2\frac{1}{2}$ years hence, the rate of interest being 15% per annum, is:

A. Rs. 1750

B. Rs. 1680

C. Rs. 1840

D. Rs. 1443.75

Answer: Option **B**

Explanation:

P.W. = Rs. $\left[\frac{100 \times 2310}{100 + \left(15 \times \frac{5}{2}\right)}\right]$ = Rs. 1680.

---

142. The average age of husband, wife and their child 3 years ago was 27 years and that of wife and the child 5 years ago was 20 years. The present age of the husband is:

A. 35 years

B. 40 years

C. 50 years

D. None of these

Answer: Option **B**

Explanation:

Sum of the present ages of husband, wife and child = (27 x 3 + 3 x 3) years = 90 years.

Sum of the present ages of wife and child = (20 x 2 + 5 x 2) years = 50 years.

∴ Husband's present age = (90 - 50) years = 40 years.

143. The price of 2 sarees and 4 shirts is Rs. 1600. With the same money one can buy 1 saree and 6 shirts. If one wants to buy 12 shirts, how much shall he have to pay ?

A. Rs. 1200

B. Rs. 2400

C. Rs. 4800

D. Cannot be determined

E. None of these

Answer: Option **B**

Explanation:

Let the price of a saree and a shirt be Rs. *x* and Rs. *y* respectively.

Then, $2x + 4y = 1600$ .... (i)

and $x + 6y = 1600$ .... (ii)

Divide equation (i) by 2, we get the below equation.

=> x + 2y = 800. --- (iii)

Now subtract (iii) from (ii)

```
 x +  6y = 1600  (-)
 x +  2y =  800
----------------
     4y =  800
----------------
```

Therefore, y = 200.

Now apply value of y in (iii)

=> x + 2 x 200 = 800

=> x + 400 = 800

Therefore x = 400

Solving (i) and (ii) we get $x = 400$, $y = 200$.

∴ Cost of 12 shirts = Rs. (12 x 200) = Rs. 2400.

144. Q is as much younger than R as he is older than T. If the sum of the ages of R and T is

50 years, what is definitely the difference between R and Q's age?

A. 1 year

B. 2 years

C. 25 years

D. Data inadequate

E. None of these

Answer: Option **D**

Explanation:

Given that:

1. The difference of age b/w R and Q = The difference of age b/w Q and T.

2. Sum of age of R and T is 50 i.e. (R + T) = 50.

Question: R - Q = ?.

Explanation:

R - Q = Q - T

(R + T) = 2Q

Now given that, (R + T) = 50

So, 50 = 2Q and therefore Q = 25.

Question is (R - Q) = ?

Here we know the value(age) of Q (25), but we don't know the age of R.

Therefore, (R-Q) cannot be determined.

Direction (for Q.Nos. 145 - 146):

Find out the wrong number in the series.

145. 196, 169, 144, 121, 100, 80, 64

A. 169

B. 144

C. 121 D. 100

E. 80

Answer: Option **E**

Explanation:

Numbers must be $(14)^2$, $(13)^2$, $(12)^2$, $(11)^2$, $(10)^2$, $(9)^2$, $(8)^2$.

So, 80 is wrong.

146. 6, 12, 48, 100, 384, 768, 3072

A. 768 B. 384

C. 100 D. 48

E. 12

Answer: Option **C**

Explanation:

Each even term of the series is obtained by multiplying the previous term by 2.

2^{nd} term = (1^{st} term) x 2 = 6 x 2 = 12

4^{th} term = (3^{rd} term) x 2 = 48 x 2 = 96.

6^{th} term = (5^{th} term) x 2 = 384 x 2 =768.

$\therefore$ 4^{th} term should be 96 instead of 100.

147. A, B, C rent a pasture. A puts 10 oxen for 7 months, B puts 12 oxen for 5 months and C puts 15 oxen for 3 months for grazing. If the rent of the pasture is Rs. 175, how much must C pay as his share of rent?

A. Rs. 45 B. Rs. 50

C. Rs. 55 D. Rs. 60

Answer: Option **A**

Explanation:

A : B : C = (10 x 7) : (12 x 5) : (15 x 3) = 70 : 60 : 45 = 14 : 12 : 9.

$\therefore$ C's rent = Rs. $\left(175 \times \frac{9}{35}\right)$ = Rs. 45.

148. If the simple interest on a sum of money for 2 years at 5% per annum is Rs. 50, what is the compound interest on the same at the same rate and for the same time?

A. Rs. 51.25 B. Rs. 52

C. Rs. 54.25 D. Rs. 60

Answer: Option **A**

Explanation:

Sum = Rs. $\left(\frac{50 \times 100}{2 \times 5}\right)$ = Rs. 500.

Amount = Rs. $\left[500 \times \left(1 + \frac{5}{100}\right)^2\right]$

= Rs. $\left(500 \times \frac{21}{20} \times \frac{21}{20}\right)$

= Rs. 551.25

$\therefore$ C.I. = Rs. (551.25 - 500) = Rs. 51.25

Direction (for Q.No. 149):

Find out the wrong number in the given sequence of numbers.

149. 36, 54, 18, 27, 9, 18.5, 4.5

A. 4.5 B. 18.5

C. 54 D. 18

Answer: Option **B**

Explanation:

The terms are alternatively multiplied by 1.5 and divided by 3. However, 18.5 does not satisfy it.

150. Two trains are running at 40 km/hr and 20 km/hr respectively in the same direction. Fast train completely passes a man sitting in the slower train in 5 seconds. What is the length of the fast train?

A. 23 m

B. $23\frac{2}{9}$ m

C. $27\frac{7}{9}$ m

D. 29 m

Answer: Option **C**

Explanation:

Relative speed = (40 - 20) km/hr = $\left(20 \times \frac{5}{18}\right)$ m/sec = $\left(\frac{50}{9}\right)$ m/sec.

$\therefore$ Length of faster train = $\left(\frac{50}{9} \times 5\right)$ m = $\frac{250}{9}$ m = $27\frac{7}{9}$ m.

151. A train moves past a telegraph post and a bridge 264 m long in 8 seconds and 20 seconds respectively. What is the speed of the train?

A. 69.5 km/hr

B. 70 km/hr

C. 79 km/hr

D. 79.2 km/hr

Answer: Option **D**

Explanation:

Let the length of the train be x metres and its speed by y m/sec.

Then, $\frac{x}{y} = 8 \quad \Rightarrow \quad x = 8y$

Now, $\frac{x + 264}{20} = y$

$\Rightarrow 8y + 264 = 20y$

$\Rightarrow y = 22.$

$\therefore$ Speed = 22 m/sec = $\left(22 \times \frac{18}{5}\right)$km/hr = 79.2 km/hr.

152. How many seconds will a 500 metre long train take to cross a man walking with a speed of 3 km/hr in the direction of the moving train if the speed of the train is 63 km/hr?

A. 25 B. 30

C. 40 D. 45

Answer: Option **B**

Explanation:

Speed of the train relative to man = (63 - 3) km/hr

= 60 km/hr

= $\left(60 \times \frac{5}{18}\right)$ m/sec

= $\left(\frac{50}{3}\right)$ m/sec.

$\therefore$ Time taken to pass the man = $\left(500 \times \frac{3}{50}\right)$ sec

= 30 sec.

153. In a 500 m race, the ratio of the speeds of two contestants A and B is 3 : 4. A has a start of 140 m. Then, A wins by:

A. 60 m

B. 40 m

C. 20 m

D. 10 m

Answer: Option **C**

Explanation:

To reach the winning post A will have to cover a distance of (500 - 140)m, *i.e.*, 360 m.

While A covers 3 m, B covers 4 m.

While A covers 360 m, B covers $\left(\frac{4}{3} \text{ x } 360\right)\text{m} = 480$ m.

Thus, when A reaches the winning post, B covers 480 m and therefore remains 20 m behind.

∴ A wins by 20 m.

154. If $3^{(x-y)} = 27$ and $3^{(x+y)} = 243$, then x is equal to:

A. 0

B. 2

C. 4

D. 6

Answer: Option **C**

Explanation:

$3^{x-y} = 27 = 3^3 \Leftrightarrow x - y = 3$ ....(i)

$3^{x+y} = 243 = 3^5 \Leftrightarrow x + y = 5$ ....(ii)

On solving (i) and (ii), we get $x = 4$.

Direction (for Q.No. 155):

Each of the questions given below consists of a question followed by three statements. You have to study the question and the statements and decide which of the statement(s) is/are necessary to answer the question.

155. What was the percentage of discount given?

I. 23.5% profit was earned by selling an almirah for Rs. 12,350.

II. If there were no discount, the earned profit would have been 30%.

III. The cost price of the almirah was Rs. 10,000.

A. Only I and II

B. Only II and III

C. Only I and III

D. Any two of the three

E. None of these

Answer: Option **E**

Explanation:

I. S.P. = Rs. 12350, Gain = 23.5%

$\therefore$ C.P. = Rs. $\left(\frac{100}{123.5} \times 12350\right)$ = Rs. 10,000.

II. M.P. = 130% of C.P. = 130% of Rs. 10,000 = Rs. 13,000.

From I and II, discount = Rs. (13000 - 12350) = Rs. 650.

Discount % = $\left(\frac{650}{13000} \times 100\right)\%$ = 5%.

Thus, I and II give the answer.

II and III can not give the answer. Because we require profit percentage with discount and profit percentage without discount. So II and III are not sufficient.

Since III gives C.P. = Rs. 10,000, I and III give the answer.

Therefore, I and II [or] I and III give the answer.

$\therefore$ Correct answer is (E).

156. The diagonal of a rectangle is 41 cm and its area is 20 sq. cm. The perimeter of the rectangle must be:

A. 9 cm

B. 18 cm

C. 20 cm

D. 41 cm

Answer: Option **B**

Explanation:

$l^2 + b^2 = 41$.

Also, $lb = 20$.

$(l + b)^2 = (l^2 + b^2) + 2lb = 41 + 40 = 81$

$\Rightarrow (l + b) = 9$.

$\therefore$ Perimeter $= 2(l + b) = 18$ cm.

157. A, B and C can complete a piece of work in 24, 6 and 12 days respectively. Working together, they will complete the same work in:

A. $\frac{1}{24}$ day

B. $\frac{7}{24}$ day

C. $3\frac{3}{7}$ days

D. 4 days

Answer: Option **C**

Explanation:

Formula: If A can do a piece of work in n days, then A's 1 day's work $= \frac{1}{n}$.

(A + B + C)'s 1 day's work $= \left(\frac{1}{24} + \frac{1}{6} + \frac{1}{12}\right) = \frac{7}{24}$.

Formula: If A's 1 day's work $= \frac{1}{n}$, then A can finish the work in n days.

So, all the three together will complete the job in $\left(\frac{24}{7}\right)$ days $= 3\frac{3}{7}$ days.

7 7

158. If selling price is doubled, the profit triples. Find the profit percent.

A. $66\frac{2}{3}$

B. 100

C. $105\frac{1}{3}$

D. 120

Answer: Option **B**

Explanation:

Let C.P. be Rs. x and S.P. be Rs. y.

Then, $3(y - x) = (2y - x) \Rightarrow y = 2x$.

Profit = Rs. $(y - x)$ = Rs. $(2x - x)$ = Rs. x.

$\therefore$ Profit % = $\left(\frac{x}{x} \times 100\right)\% = 100\%$

159. The value of $\log_2 16$ is:

A. $\frac{1}{8}$

B. 4

C. 8

D. 16

Answer: Option **B**

Explanation:

Let $\log_2 16 = n$.

Then, $2^n = 16 = 2^4 \Rightarrow n = 4$.

$\therefore \log_2 16 = 4$.

Direction (for Q.No. 160):

Each of the questions given below consists of a statement and / or a question and two

statements numbered I and II given below it. You have to decide whether the data provided in the statement(s) is / are sufficient to answer the given question. Read the both statements and

- Give answer (A) if the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.
- Give answer (B) if the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.
- Give answer (C) if the data either in Statement I or in Statement II alone are sufficient to answer the question.
- Give answer (D) if the data even in both Statements I and II together are not sufficient to answer the question.
- Give answer(E) if the data in both Statements I and II together are necessary to answer the question.

160. What will be compounded amount?

I. Rs. 200 was borrowed for 192 months at 6% compounded annually.

II. Rs. 200 was borrowed for 16 years at 6%.

A. I alone sufficient while II alone not sufficient to answer

B. II alone sufficient while I alone not sufficient to answer

C. Either I or II alone sufficient to answer

D. Both I and II are not sufficient to answer

E. Both I and II are necessary to answer

Answer: Option **C**

Explanation:

I. Amount = Rs. $\left[200 \times \left(1 + \frac{6}{100}\right)^{16}\right]$

II. Amount = Rs. $\left[200 \times \left(1 + \frac{6}{100}\right)^{16}\right]$

Thus, I as well as II gives the answer.

$\therefore$ Correct answer is (C).

161. The price of commodity *X* increases by 40 paise every year, while the price of commodity *Y*increases by 15 paise every year. If in 2001, the price of commodity *X* was Rs. 4.20 and that of*Y* was Rs. 6.30, in which year commodity *X* will cost 40 paise more than the commodity *Y* ?

A. 2010 B. 2011

C. 2012 D. 2013

Answer: Option **B**

Explanation:

Suppose commodity *X* will cost 40 paise more than *Y* after *z* years.

Then, $(4.20 + 0.40z) - (6.30 + 0.15z) = 0.40$

$\Rightarrow 0.25z = 0.40 + 2.10$

$\Rightarrow z = \frac{2.50}{0.25} = \frac{250}{25} = 10.$

$\therefore$ *X* will cost 40 paise more than *Y* 10 years after 2001 *i.e.,* 2011.

162. There are two examinations rooms A and B. If 10 students are sent from A to B, then the number of students in each room is the same. If 20 candidates are sent from B to A, then the number of students in A is double the number of students in B. The number of students in room A is:

A. 20 B. 80

C. 100 D. 200

Answer: Option **C**

Explanation:

Let the number of students in rooms A and B be *x* and *y* respectively.

Then, $x - 10 = y + 10 \Rightarrow x - y = 20$ .... (i)

and $x + 20 = 2(y - 20) \Rightarrow x - 2y = -60$ .... (ii)

Solving (i) and (ii) we get: $x = 100$, $y = 80$.

∴ The required answer A = 100.

163. If $a - b = 3$ and $a^2 + b^2 = 29$, find the value of ab.

A. 10 B. 12

C. 15 D. 18

Answer: Option **A**

Explanation:

$2ab = (a^2 + b^2) - (a - b)^2$

$= 29 - 9 = 20$

$\Rightarrow ab = 10.$

164. The product of two numbers is 120 and the sum of their squares is 289. The sum of the number is:

A. 20 B. 23

C. 169 D. None of these

Answer: Option **B**

Explanation:

Let the numbers be x and y.

Then, $xy = 120$ and $x^2 + y^2 = 289$.

∴ $(x + y)^2 = x^2 + y^2 + 2xy = 289 + (2 \times 120) = 529$

∴ $x + y = 529 = 23.$

165. The salaries A, B, C are in the ratio 2 : 3 : 5. If the increments of 15%, 10% and 20% are allowed respectively in their salaries, then what will be new ratio of their salaries?

A. 3 : 3 : 10 B. 10 : 11 : 20

C. 23 : 33 : 60 D. Cannot be determined

Answer: Option **C**

Explanation:

Let A = 2*k*, B = 3*k* and C = 5*k*.

A's new salary = $\frac{115}{100}$ of $2k = \left(\frac{115}{100} \times 2k\right) = \frac{23k}{10}$

B's new salary = $\frac{110}{100}$ of $3k = \left(\frac{110}{100} \times 3k\right) = \frac{33k}{10}$

C's new salary = $\frac{120}{100}$ of $5k = \left(\frac{120}{100} \times 5k\right) = 6k$

$\therefore$ New ratio $\left(\frac{23k}{10} : \frac{33k}{10} : 6k\right) = 23 : 33 : 60$

166. A and B entered into partnership with capitals in the ratio 4 : 5. After 3 months, A withdrew $\frac{1}{4}$ of his capital and B withdrew $\frac{1}{5}$ of his capital. The gain at the end of 10 months was Rs. 760. A's share in this profit is:

A. Rs. 330 B. Rs. 360

C. Rs. 380 D. Rs. 430

Answer: Option **A**

Explanation:

$A : B = \left[4x \times 3 + \left(4x - \frac{1}{4} \times 4x\right) \times 7\right] : \left[5x \times 3 + \left(5x - \frac{1}{5} \times 5x\right) \times 7\right]$

$= (12x + 21x) : (15x + 28x)$

$= 33x : 43x$

$= 33 : 43.$

$\therefore$ A's share = Rs. $\left(760 \times \frac{33}{76}\right)$ = Rs. 330.

Direction (for Q.No. 167):

Each of the questions given below consists of a question followed by three statements. You

have to study the question and the statements and decide which of the statement(s) is/are necessary to answer the question.

167. What is R's share of profit in a joit venture?

I. Q started business investing Rs. 80,000.

II. R joined him after 3 months.

III. P joined after 4 months with a capital of Rs. 1,20,000 and got Rs. 6000 as his share profit.

A. All I, II and III

B. I and III only

C. II and III only

D. Even with all I, II and III, the answer cannot be arrived at

E. None of these

Answer: Option **D**

Explanation:

From I, II and III, we get P : Q : R = (120000 x 8) : (80000 x 12) : (*x* x 9).

Since R's investment is not given, the above ratio cannot be give.

∴ Given data is inadequate.

168. A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for Rs. 3200. With the help of C, they completed the work in 3 days. How much is to be paid to C?

A. Rs. 375 B. Rs. 400

C. Rs. 600 D. Rs. 800

Answer: Option **B**

Explanation:

C's 1 day's work = $\frac{1}{3} - \left(\frac{1}{6} + \frac{1}{8}\right) = \frac{1}{3} - \frac{7}{24} = \frac{1}{24}$.

A's wages : B's wages : C's wages = $\frac{1}{6} : \frac{1}{8} : \frac{1}{24}$ = 4 : 3 : 1.

∴ C's share (for 3 days) = Rs. $\left(3 \times \frac{1}{24} \times 3200\right)$ = Rs. 400.

169. A goods train runs at the speed of 72 kmph and crosses a 250 m long platform in 26 seconds. What is the length of the goods train?

A. 230 m
B. 240 m
C. 260 m
D. 270 m

Answer: Option **D**

Explanation:

Speed = $\left(72 \times \frac{5}{18}\right)$ m/sec = 20 m/sec.

Time = 26 sec.

Let the length of the train be *x* metres.

Then, $\frac{x + 250}{26} = 20$

⇒ $x + 250 = 520$

⇒ $x = 270$.

170. If $\log_{10} 2 = 0.3010$, then $\log_2 10$ is equal to:

A. $\frac{699}{301}$
B. $\frac{1000}{301}$

C. 0.3010 D. 0.6990

Answer: Option **B**

Explanation:

$\log_2 10 = \frac{1}{\log_{10} 2} = \frac{1}{0.3010} = \frac{10000}{3010} = \frac{1000}{301}$.

171. An error 2% in excess is made while measuring the side of a square. The percentage of error in the calculated area of the square is:

A. 2% B. 2.02%

C. 4% D. 4.04%

Answer: Option **D**

Explanation:

100 cm is read as 102 cm.

$\therefore$ $A_1 = (100 \times 100)\ cm^2$ and $A_2\ (102 \times 102)\ cm^2$.

$(A_2 - A_1) = [(102)^2 - (100)^2]$

$= (102 + 100) \times (102 - 100)$

$= 404\ cm^2$.

$\therefore$ Percentage error $= \left(\frac{404}{100 \times 100} \times 100\right)\% = 4.04\%$

172. In a shower, 5 cm of rain falls. The volume of water that falls on 1.5 hectares of ground is:

A. 75 cu. m B. 750 cu. m

C. 7500 cu. m D. 75000 cu. m

Answer: Option **B**

Explanation:

1 hectare = 10,000 m^2

So, Area = (1.5 x 10000) m^2 = 15000 m^2.

Depth = $\frac{5}{100}$m = $\frac{1}{20}$m.

$\therefore$ Volume = (Area x Depth) = $\left(15000 \times \frac{1}{20}\right)m^3$ = 750 m^3.

Direction (for Q.No. 173):

Each of the questions given below consists of a statement and / or a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statement(s) is / are sufficient to answer the given question. Read the both statements and

- Give answer (A) if the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.
- Give answer (B) if the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.
- Give answer (C) if the data either in Statement I or in Statement II alone are sufficient to answer the question.
- Give answer (D) if the data even in both Statements I and II together are not sufficient to answer the question.
- Give answer(E) if the data in both Statements I and II together are necessary to answer the question.

173. What is the volume of a cube?

I. The area of each face of the cube is 64 square metres.

II. The length of one side of the cube is 8 metres.

A. I alone sufficient while II alone not sufficient to answer

B. II alone sufficient while I alone not sufficient to answer

C. Either I or II alone sufficient to answer

D. Both I and II are not sufficient to answer

E. Both I and II are necessary to answer

Answer: Option **C**

Explanation:

Let each edge be *a* metres. Then,

I. $a^2 = 64 \Rightarrow a = 8$ m $\Rightarrow$ Volume = $(8 \times 8 \times 8)$ $m^3 = 512$ m^3.

Thus, I alone gives the answer.

II. $a = 8$ m $\Rightarrow$ Volume = $(8 \times 8 \times 8)$ $m^3 = 512$ m^3.

Thus, II alone gives the answer.

$\therefore$ Correct answer is (C).

174. The reflex angle between the hands of a clock at 10.25 is:

A. 180^o B. $192\frac{1^o}{2}$

C. 195^o D. $197\frac{1^o}{2}$

Answer: Option **D**

Explanation:

Angle traced by hour hand in $\frac{125}{12}$ hrs = $\left(\frac{360}{12} \times \frac{125}{12}\right)^o = 312\frac{1^o}{2}$.

Angle traced by minute hand in 25 min = $\left(\frac{360}{60} \times 25\right)^o = 150^o$.

$\therefore$ Reflex angle = $360^o - \left(312\frac{1}{2} - 150\right)^o = 360^o - 162\frac{1^o}{2} = 197\frac{1}{2}$.

175. At what time between 4 and 5 o'clock will the hands of a watch point in opposite directions?

A. 45 min. past 4 B. 40 min. past 4

C. 504 min. past 4 D. 546 min. past 4

11 11

Answer: Option **D**

Explanation:

At 4 o'clock, the hands of the watch are 20 min. spaces apart.

To be in opposite directions, they must be 30 min. spaces apart.

∴ Minute hand will have to gain 50 min. spaces.

55 min. spaces are gained in 60 min.

50 min. spaces are gained in $\left(\frac{60}{55} \times 50\right)$ min. or $54\frac{6}{11}$ min.

∴ Required time = $54\frac{6}{11}$ min. past 4.

176. A 12% stock yielding 10% is quoted at:

A. Rs. 83.33 B. Rs. 110

C. Rs. 112 D. Rs. 120

Answer: Option **D**

Explanation:

To earn Rs. 10, money invested = Rs. 100.

To earn Rs. 12, money invested = Rs. $\left(\frac{100}{10} \times 12\right)$ = Rs. 120.

∴ Market value of Rs. 100 stock = Rs. 120.

177. In how many different ways can the letters of the word 'DETAIL' be arranged in such a way that the vowels occupy only the odd positions?

A. 32 B. 48

C. 36 D. 60

E. 120

Answer: Option **C**

Explanation:

There are 6 letters in the given word, out of which there are 3 vowels and 3 consonants.

Let us mark these positions as under:

(1) (2) (3) (4) (5) (6)

Now, 3 vowels can be placed at any of the three places out 4, marked 1, 3, 5.

Number of ways of arranging the vowels = ${}^3P_3 = 3! = 6$.

Also, the 3 consonants can be arranged at the remaining 3 positions.

Number of ways of these arrangements = ${}^3P_3 = 3! = 6$.

Total number of ways = (6 x 6) = 36.

178. Two dice are tossed. The probability that the total score is a prime number is:

A. $\frac{1}{6}$ B. $\frac{5}{12}$

C. $\frac{1}{2}$ D. $\frac{7}{9}$

Answer: Option **B**

Explanation:

Clearly, $n(S) = (6 \times 6) = 36$.

Let E = Event that the sum is a prime number.

Then E = { (1, 1), (1, 2), (1, 4), (1, 6), (2, 1), (2, 3), (2, 5), (3, 2), (3, 4), (4, 1), (4, 3), (5, 2), (5, 6), (6, 1), (6, 5) }

$\therefore$ $n(E) = 15$.

$\therefore$ $P(E) = \frac{n(E)}{n(S)} = \frac{15}{36} = \frac{5}{12}$.

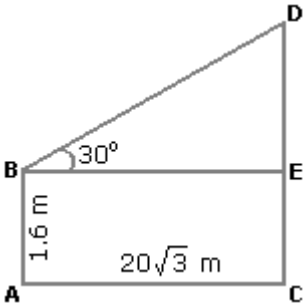
179. An observer 1.6 m tall is 203 away from a tower. The angle of elevation from his eye to the top of the tower is 30º. The heights of the tower is:

A. 21.6 m
B. 23.2 m
C. 24.72 m
D. None of these

Answer: Option **A**

Explanation:

Let AB be the observer and CD be the tower.



Draw BE ⊥ CD.

Then, CE = AB = 1.6 m,

BE = AC = 203 m.

$\frac{DE}{BE} = \tan 30^\circ = \frac{1}{\sqrt{3}}$

$\Rightarrow DE = \frac{203}{\sqrt{3}} m = 20 m.$

∴ CD = CE + DE = (1.6 + 20) m = 21.6 m.

Direction (for Q.No. 180):

Find the odd man out.

180. 1, 4, 9, 16, 23, 25, 36

A. 9
B. 23
C. 25
D. 36

Answer: Option **B**

Explanation:

Each of the numbers except 23, is perfect square.

181. Let N be the greatest number that will divide 1305, 4665 and 6905, leaving the same remainder in each case. Then sum of the digits in N is:

A. 4 B. 5

C. 6 D. 8

Answer: Option **A**

Explanation:

N = H.C.F. of (4665 - 1305), (6905 - 4665) and (6905 - 1305)

= H.C.F. of 3360, 2240 and 5600 = 1120.

Sum of digits in N = (1 + 1 + 2 + 0) = 4

182. The average weight of 8 person's increases by 2.5 kg when a new person comes in place of one of them weighing 65 kg. What might be the weight of the new person?

A. 76 kg B. 76.5 kg

C. 85 kg D. Data inadequate

E. None of these

Answer: Option **C**

Explanation:

Total weight increased = (8 x 2.5) kg = 20 kg.

Weight of new person = (65 + 20) kg = 85 kg.

183. The difference between a two-digit number and the number obtained by interchanging the digits is 36. What is the difference between the sum and the difference of the digits of the number if the ratio between the digits of the number is 1 : 2 ?

A. 4 B. 8

C. 16 D. None of these

Answer: Option **B**

Explanation:

Since the number is greater than the number obtained on reversing the digits, so the ten's digit is greater than the unit's digit.

Let ten's and unit's digits be $2x$ and x respectively.

Then, $(10 \times 2x + x) - (10x + 2x) = 36$

$\Rightarrow 9x = 36$

$\Rightarrow x = 4.$

$\therefore$ Required difference $= (2x + x) - (2x - x) = 2x = 8.$

184. The sum of the present ages of a father and his son is 60 years. Six years ago, father's age was five times the age of the son. After 6 years, son's age will be:

A. 12 years B. 14 years

C. 18 years D. 20 years

Answer: Option **D**

Explanation:

Let the present ages of son and father be x and $(60 - x)$ years respectively.

Then, $(60 - x) - 6 = 5(x - 6)$

$\Rightarrow 54 - x = 5x - 30$

$\Rightarrow 6x = 84$

$\Rightarrow x = 14.$

$\therefore$ Son's age after 6 years $= (x + 6) = 20$ years..

185. Three candidates contested an election and received 1136, 7636 and 11628 votes respectively. What percentage of the total votes did the winning candidate get?

A. 57% B. 60%

C. 65%

D. 90%

Answer: Option **A**

Explanation:

Total number of votes polled = (1136 + 7636 + 11628) = 20400.

$\therefore$ Required percentage = $\left(\frac{11628}{20400} \times 100\right)\% = 57\%$.

186. In a certain store, the profit is 320% of the cost. If the cost increases by 25% but the selling price remains constant, approximately what percentage of the selling price is the profit?

A. 30%

B. 70%

C. 100%

D. 250%

Answer: Option **B**

Explanation:

Let C.P.= Rs. 100. Then, Profit = Rs. 320, S.P. = Rs. 420.

New C.P. = 125% of Rs. 100 = Rs. 125

New S.P. = Rs. 420.

Profit = Rs. (420 - 125) = Rs. 295.

$\therefore$ Required percentage = $\left(\frac{295}{420} \times 100\right)\% = \frac{1475}{21}\% = 70\%$ (approximately).

187. If the cost of x metres of wire is d rupees, then what is the cost of y metres of wire at the same rate?

A. Rs. $\left(\frac{xy}{d}\right)$

B. Rs. (xd)

C. Rs. (yd)

D. Rs. $\left(\frac{yd}{x}\right)$

Answer: Option **D**

Explanation:

Cost of x metres = Rs. d.

Cost of 1 metre = Rs. $\left(\frac{d}{x}\right)$

Cost of y metres = Rs. $\left(\frac{d}{x} \cdot y\right)$ = Rs. $\left(\frac{yd}{x}\right)$.

188. A flagstaff 17.5 m high casts a shadow of length 40.25 m. The height of the building, which casts a shadow of length 28.75 m under similar conditions will be:

A. 10 m

B. 12.5 m

C. 17.5 m

D. 21.25 m

Answer: Option **B**

Explanation:

Let the height of the building x metres.

Less lengthy shadow, Less in the height (Direct Proportion)

$\therefore$ 40.25 : 28.75 **::** 17.5 : x $\Leftrightarrow$ 40.25 x x = 28.75 x 17.5

$$x = \frac{28.75 \times 17.5}{40.25}$$

$\Rightarrow x = 12.5$

Direction (for Q.No. 189):

Each of the questions given below consists of a question followed by three statements. You have to study the question and the statements and decide which of the statement(s) is/are necessary to answer the question.

189. In how many days can 10 women finish a work?

I. 10 men can complete the work in 6 days.

II. 10 men and 10 women together can complete the work in $3\frac{3}{7}$ days

III. If 10 men work for 3 days and thereafter 10 women replace them, the remaining work in completed in 4 days.

A. Any two of the three

B. I and II only

C. II and III only

D. I and III only

E. None of these

Answer: Option **A**

Explanation:

I. (10 x 6) men can complete the work in 1 day.

$\Rightarrow$ 1 man's 1 day's work = $\frac{1}{60}$

II. $\left(10 \times \frac{24}{7}\right)$ men + $\left(10 \times \frac{24}{7}\right)$ women can complete the work in 1 day.

$\Rightarrow \left(\frac{240}{7}\right)$ men's 1 day work + $\left(\frac{240}{7}\right)$ women's 1 day work = 1.

$\Rightarrow \left(\frac{240}{7} \times \frac{1}{60}\right) + \left(\frac{240}{7}\right)$ women's 1 day's work = 1.

$\Rightarrow \left(\frac{240}{7}\right)$ women's 1 day's work $= \left(1 - \frac{4}{7}\right) = \frac{3}{7}$

$\Rightarrow$ 10 women's 1 day's work $= \left(\frac{3}{7} \times \frac{7}{240} \times 10\right) = \frac{1}{8}$

So, 10 women can finish the work in 8 days.

III. (10 men's work for 3 days) + (10 women's work for 4 days) = 1

$\Rightarrow$ (10 x 3) men's 1 day's work + (10 x 4) women's 1 day's work = 1

$\Rightarrow$ 30 men's 1 day's work + 40 women's 1 day's work = 1

Thus, I and III will give us the answer.

And, II and III will give us the answer.

$\therefore$ Correct answer is (A).

Direction (for Q.No. 190):

Each of these questions is followed by three statements. You have to study the question and all the three statements given to decide whether any information provided in the statement(s) is redundant and can be dispensed with while answering the given question.

190. 8 men and 14 women are working together in a field. After working for 3 days, 5 men and 8 women leave the work. How many more days will be required to complete the work?

I. 19 men and 12 women together can complete the work in 18 days.

II. 16 men can complete two-third of the work in 16 days.

III. In 1 day, the work done by three men in equal to the work done by four women.

A. I only

B. II only

C. III only

D. I or II or III

E. II or III only

Answer: Option **D**

Explanation:

Clearly, I only gives the answer.

Similarly, II only gives the answer.

And, III only gives the answer.

∴ Correct answer is (D).

191. A towel, when bleached, was found to have lost 20% of its length and 10% of its breadth. The percentage of decrease in area is:

A. 10% B. 10.08%

C. 20% D. 28%

Answer: Option **D**

Explanation:

Let original length = x and original breadth = y.

$$\text{Decrease in area} = xy - \left(\frac{80}{100}x \times \frac{90}{100}y\right)$$

$$= \left(xy - \frac{18}{25}xy\right)$$

$$= \frac{7}{25}xy.$$

$\therefore$ Decrease % = $\left(\frac{7}{25}xy \times \frac{1}{xy} \times 100\right)\%$ = 28%.

Direction (for Q.No. 192):

Each of the questions given below consists of a statement and / or a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statement(s) is / are sufficient to answer the given question. Read the both statements and

- Give answer (A) if the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.
- Give answer (B) if the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.
- Give answer (C) if the data either in Statement I or in Statement II alone are sufficient to answer the question.
- Give answer (D) if the data even in both Statements I and II together are not sufficient to answer the question.
- Give answer(E) if the data in both Statements I and II together are necessary to answer the question.

192. What is the capacity of a cylindrical tank?

I. Radius of the base is half of its height which is 28 metres.

II. Area of the base is 616 sq. metres and its height is 28 metres.

A. I alone sufficient while II alone not sufficient to answer

B. II alone sufficient while I alone not sufficient to answer

C. Either I or II alone sufficient to answer

D. Both I and II are not sufficient to answer

E. Both I and II are necessary to answer

Answer: Option **C**

Explanation:

I gives, h = 28 m and r = 14.

$\therefore$ Capacity = $\pi r^2 h$, which can be obtained.

Thus, I alone gives the answer.

II gives, $\pi r^2 = 616\ m^2$ and $h = 28$ m.

$\therefore$ Capacity = $(\pi r^2 \times h) = (616 \times 28)\ m^3$.

Thus, II alone gives the answer.

$\therefore$ Correct answer is (C).

193. In 100 m race, A covers the distance in 36 seconds and B in 45 seconds. In this race A beats B by:

A. 20 m
B. 25 m
C. 22.5 m
D. 9 m

Answer: Option **A**

Explanation:

Distance covered by B in 9 sec. = $\left(\frac{100}{45} \times 9\right)$ m = 20 m.

$\therefore$ A beats B by 20 metres.

194. A 6% stock yields 8%. The market value of the stock is:

A. Rs. 48
B. Rs. 75
C. Rs. 96
D. Rs. 133.33

Answer: Option **B**

Explanation:

For an income of Rs. 8, investment = Rs. 100.

For an income of Rs. 6, investment = Rs. $\left(\frac{100}{8} \times 6\right)$ = Rs. 75.

$\therefore$ Market value of Rs. 100 stock = Rs. 75.

195. A box contains 2 white balls, 3 black balls and 4 red balls. In how many ways can 3 balls be drawn from the box, if at least one black ball is to be included in the draw?

A. 32 B. 48

C. 64 D. 96

E. None of these

Answer: Option **C**

Explanation:

We may have(1 black and 2 non-black) or (2 black and 1 non-black) or (3 black).

$\therefore$ Required number of ways $= ({}^3C_1 \times {}^6C_2) + ({}^3C_2 \times {}^6C_1) + ({}^3C_3)$

$$= \left(3 \times \frac{6 \times 5}{2 \times 1}\right) + \left(\frac{3 \times 2}{2 \times 1} \times 6\right) + 1$$

$$= (45 + 18 + 1)$$

$$= 64.$$

196. If Rs. 10 be allowed as true discount on a bill of Rs. 110 due at the end of a certain time, then the discount allowed on the same sum due at the end of double the time is:

A. Rs. 20 B. Rs. 21.81

C. Rs. 22 D. Rs. 18.33

Answer: Option **D**

Explanation:

S.I. on Rs. (110 - 10) for a certain time = Rs. 10.

S.I. on Rs. 100 for double the time = Rs. 20.

T.D. on Rs. 120 = Rs. (120 - 100) = Rs. 20.

T.D. on Rs. 110 = Rs. $\left(\frac{20}{120} \times 110\right)$ = Rs. 18.33

Direction (for Q.Nos. 197 - 198):

Find the odd man out.

197. 10, 14, 16, 18, 21, 24, 26

A. 26 B. 24

C. 21 D. 18

Answer: Option **C**

Explanation:

Each of the numbers except 21 is an even number.

198. 835, 734, 642, 751, 853, 981, 532

A. 751 B. 853

C. 981 D. 532

Answer: Option **A**

Explanation:

In each number except 751, the difference of third and first digit is the middle one.

Direction (for Q.No. 199):

Find out the wrong number in the given sequence of numbers.

199. 1, 2, 6, 15, 31, 56, 91

A. 31 B. 91

C. 56 D. 15

Answer: Option **B**

Explanation:

1, $1 + 1^2 = 2$, $2 + 2^2 = 6$, $6 + 3^2 = 15$, $15 + 4^2 = 31$, $31 + 5^2 = 56$, $56 + 6^2 = 92$

Last number of given series must be 92 not 91.

Direction (for Q.No. 200):

Insert the missing number.

200. 7, 26, 63, 124, 215, 342, (....)

A. 481 B. 511

C. 391 D. 421

Answer: Option **B**

Explanation:

Numbers are $(2^3 - 1)$, $(3^3 - 1)$, $(4^3 - 1)$, $(5^3 - 1)$, $(6^3 - 1)$, $(7^3 - 1)$ etc.

So, the next number is $(8^3 - 1) = (512 - 1) = 511$.

201. The price of commodity *X* increases by 40 paise every year, while the price of commodity *Y*increases by 15 paise every year. If in 2001, the price of commodity *X* was Rs. 4.20 and that of*Y* was Rs. 6.30, in which year commodity *X* will cost 40 paise more than the commodity *Y* ?

A. 2010 B. 2011

C. 2012 D. 2013

Answer: Option **B**

Explanation:

Suppose commodity *X* will cost 40 paise more than *Y* after *z* years.

Then, $(4.20 + 0.40z) - (6.30 + 0.15z) = 0.40$

$\Rightarrow 0.25z = 0.40 + 2.10$

$\Rightarrow z = \frac{2.50}{0.25} = \frac{250}{25} = 10.$

$\therefore$ *X* will cost 40 paise more than *Y* 10 years after 2001 *i.e.,* 2011.

202. There are two examinations rooms A and B. If 10 students are sent from A to B, then the number of students in each room is the same. If 20 candidates are sent from B to A, then the number of students in A is double the number of students in B. The number of students in room A is:

A. 20 B. 80

C. 100 D. 200

Answer: Option **C**

Explanation:

Let the number of students in rooms A and B be x and y respectively.

Then, $x - 10 = y + 10 \Rightarrow x - y = 20$ .... (i)

and $x + 20 = 2(y - 20) \Rightarrow x - 2y = -60$ .... (ii)

Solving (i) and (ii) we get: $x = 100$, $y = 80$.

$\therefore$ The required answer A = 100.

203. If $a - b = 3$ and $a^2 + b^2 = 29$, find the value of ab.

A. 10 B. 12

C. 15 D. 18

Answer: Option **A**

Explanation:

$2ab = (a^2 + b^2) - (a - b)^2$

$= 29 - 9 = 20$

$\Rightarrow ab = 10.$

204. The product of two numbers is 120 and the sum of their squares is 289. The sum of the number is:

A. 20 B. 23

C. 169 D. None of these

Answer: Option **B**

Explanation:

Let the numbers be x and y.

Then, $xy = 120$ and $x^2 + y^2 = 289$.

$\therefore (x + y)^2 = x^2 + y^2 + 2xy = 289 + (2 \times 120) = 529$

$\therefore x + y = 529 = 23$.

205. The salaries A, B, C are in the ratio 2 : 3 : 5. If the increments of 15%, 10% and 20% are allowed respectively in their salaries, then what will be new ratio of their salaries?

A. 3 : 3 : 10 B. 10 : 11 : 20

C. 23 : 33 : 60 D. Cannot be determined

Answer: Option **C**

Explanation:

Let A = 2k, B = 3k and C = 5k.

A's new salary = $\frac{115}{100}$ of $2k = \left(\frac{115}{100} \times 2k\right) = \frac{23k}{10}$

B's new salary = $\frac{110}{100}$ of $3k = \left(\frac{110}{100} \times 3k\right) = \frac{33k}{10}$

C's new salary = $\frac{120}{100}$ of $5k = \left(\frac{120}{100} \times 5k\right) = 6k$

$\therefore$ New ratio $\left(\frac{23k}{10} : \frac{33k}{10} : 6k\right) = 23 : 33 : 60$

206. A and B entered into partnership with capitals in the ratio 4 : 5. After 3 months, A withdrew $\frac{1}{4}$ of his capital and B withdrew $\frac{1}{5}$ of his capital. The gain at the end of 10

months was Rs. 760. A's share in this profit is:

A. Rs. 330

B. Rs. 360

C. Rs. 380

D. Rs. 430

Answer: Option **A**

Explanation:

$$A : B = \left[4x \times 3 + \left(4x - \frac{1}{4} \times 4x\right) \times 7\right] : \left[5x \times 3 + \left(5x - \frac{1}{5} \times 5x\right) \times 7\right]$$

$= (12x + 21x) : (15x + 28x)$

$= 33x : 43x$

$= 33 : 43.$

$\therefore$ A's share = Rs. $\left(760 \times \frac{33}{76}\right)$ = Rs. 330.

Direction (for Q.No. 207):

Each of the questions given below consists of a question followed by three statements. You have to study the question and the statements and decide which of the statement(s) is/are necessary to answer the question.

207. What is R's share of profit in a joit venture?

I. Q started business investing Rs. 80,000.

II. R joined him after 3 months.

III. P joined after 4 months with a capital of Rs. 1,20,000 and got Rs. 6000 as his share profit.

A. All I, II and III

B. I and III only

C. II and III only

D. Even with all I, II and III, the answer cannot be arrived at

E. None of these

Answer: Option **D**

Explanation:

From I, II and III, we get P : Q : R = (120000 x 8) : (80000 x 12) : (*x* x 9).

Since R's investment is not given, the above ratio cannot be give.

∴ Given data is inadequate.

208. A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for Rs. 3200. With the help of C, they completed the work in 3 days. How much is to be paid to C?

A. Rs. 375 B. Rs. 400

C. Rs. 600 D. Rs. 800

Answer: Option **B**

Explanation:

C's 1 day's work = $\frac{1}{3} - \left(\frac{1}{6} + \frac{1}{8}\right) = \frac{1}{3} - \frac{7}{24} = \frac{1}{24}$.

A's wages : B's wages : C's wages = $\frac{1}{6} : \frac{1}{8} : \frac{1}{24}$ = 4 : 3 : 1.

∴ C's share (for 3 days) = Rs. $\left(3 \times \frac{1}{24} \times 3200\right)$ = Rs. 400.

209. A goods train runs at the speed of 72 kmph and crosses a 250 m long platform in 26 seconds. What is the length of the goods train?

A. 230 m B. 240 m

C. 260 m D. 270 m

Answer: Option **D**

Explanation:

Speed = $\left(72 \times \frac{5}{18}\right)$ m/sec = 20 m/sec.

Time = 26 sec.

Let the length of the train be x metres.

Then, $\frac{x + 250}{26} = 20$

$\Rightarrow x + 250 = 520$

$\Rightarrow x = 270.$

---

210. If $\log_{10} 2 = 0.3010$, then $\log_2 10$ is equal to:

A. $\frac{699}{301}$ B. $\frac{1000}{301}$

C. 0.3010 D. 0.6990

Answer: Option **B**

Explanation:

$\log_2 10 = \frac{1}{\log_{10} 2} = \frac{1}{0.3010} = \frac{10000}{3010} = \frac{1000}{301}$.

---

211. An error 2% in excess is made while measuring the side of a square. The percentage of error in the calculated area of the square is:

A. 2% B. 2.02%

C. 4% D. 4.04%

Answer: Option **D**

Explanation:

100 cm is read as 102 cm.

$\therefore$ $A_1 = (100 \times 100)\ cm^2$ and $A_2\ (102 \times 102)\ cm^2$.

$(A_2 - A_1) = [(102)^2 - (100)^2]$

$= (102 + 100) \times (102 - 100)$

$= 404\ cm^2$.

$\therefore$ Percentage error $= \left(\frac{404}{100 \times 100} \times 100\right)\% = 4.04\%$

212. In a shower, 5 cm of rain falls. The volume of water that falls on 1.5 hectares of ground is:

A. 75 cu. m

B. 750 cu. m

C. 7500 cu. m

D. 75000 cu. m

Answer: Option **B**

Explanation:

1 hectare = 10,000 m^2

So, Area = (1.5 x 10000) m^2 = 15000 m^2.

Depth $= \frac{5}{100}m = \frac{1}{20}m$.

$\therefore$ Volume = (Area x Depth) $= \left(15000 \times \frac{1}{20}\right)m^3 = 750\ m^3$.

Direction (for Q.No. 213):

Each of the questions given below consists of a statement and / or a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statement(s) is / are sufficient to answer the given question. Read the both statements and

- Give answer (A) if the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.
- Give answer (B) if the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.

- Give answer (C) if the data either in Statement I or in Statement II alone are sufficient to answer the question.
- Give answer (D) if the data even in both Statements I and II together are not sufficient to answer the question.
- Give answer(E) if the data in both Statements I and II together are necessary to answer the question.

213. What is the volume of a cube?

I. The area of each face of the cube is 64 square metres.

II. The length of one side of the cube is 8 metres.

A. I alone sufficient while II alone not sufficient to answer

B. II alone sufficient while I alone not sufficient to answer

C. Either I or II alone sufficient to answer

D. Both I and II are not sufficient to answer

E. Both I and II are necessary to answer

Answer: Option **C**

Explanation:

Let each edge be a metres. Then,

I. $a^2 = 64 \Rightarrow a = 8$ m $\Rightarrow$ Volume = $(8 \times 8 \times 8)$ $m^3 = 512$ m^3.

Thus, I alone gives the answer.

II. $a = 8$ m $\Rightarrow$ Volume = $(8 \times 8 \times 8)$ $m^3 = 512$ m^3.

Thus, II alone gives the answer.

$\therefore$ Correct answer is (C).

214. The reflex angle between the hands of a clock at 10.25 is:

A. 180^o

B. $192\frac{1^o}{2}$

C. 195^o

D. $197\frac{1}{2}^o$

Answer: Option **D**

Explanation:

Angle traced by hour hand in $\frac{125}{12}$ hrs = $\left(\frac{360}{12} \times \frac{125}{12}\right)^o = 312\frac{1}{2}^o$.

Angle traced by minute hand in 25 min = $\left(\frac{360}{60} \times 25\right)^o = 150^o$.

$\therefore$ Reflex angle = $360^o - \left(312\frac{1}{2} - 150\right)^o = 360^o - 162\frac{1}{2}^o = 197\frac{1}{2}^o$.

215. At what time between 4 and 5 o'clock will the hands of a watch point in opposite directions?

A. 45 min. past 4

B. 40 min. past 4

C. $50\frac{4}{11}$ min. past 4

D. $54\frac{6}{11}$ min. past 4

Answer: Option **D**

Explanation:

At 4 o'clock, the hands of the watch are 20 min. spaces apart.

To be in opposite directions, they must be 30 min. spaces apart.

$\therefore$ Minute hand will have to gain 50 min. spaces.

55 min. spaces are gained in 60 min.

50 min. spaces are gained in $\left(\frac{60}{55} \times 50\right)$ min. or $54\frac{6}{11}$ min.

$\therefore$ Required time = 54 $\frac{6}{11}$ min. past 4.

216. A 12% stock yielding 10% is quoted at:

A. Rs. 83.33 B. Rs. 110

C. Rs. 112 D. Rs. 120

Answer: Option **D**

Explanation:

To earn Rs. 10, money invested = Rs. 100.

To earn Rs. 12, money invested = Rs. $\left(\frac{100}{10} \times 12\right)$ = Rs. 120.

∴ Market value of Rs. 100 stock = Rs. 120.

217. In how many different ways can the letters of the word 'DETAIL' be arranged in such a way that the vowels occupy only the odd positions?

A. 32 B. 48

C. 36 D. 60

E. 120

Answer: Option **C**

Explanation:

There are 6 letters in the given word, out of which there are 3 vowels and 3 consonants.

Let us mark these positions as under:

(1) (2) (3) (4) (5) (6)

Now, 3 vowels can be placed at any of the three places out 4, marked 1, 3, 5.

Number of ways of arranging the vowels = ${}^3P_3 = 3! = 6$.

Also, the 3 consonants can be arranged at the remaining 3 positions.

Number of ways of these arrangements = ${}^3P_3 = 3! = 6$.

Total number of ways = (6 x 6) = 36.

218. Two dice are tossed. The probability that the total score is a prime number is:

A. $\frac{1}{6}$ B. $\frac{5}{12}$

C. $\frac{1}{2}$ D. $\frac{7}{9}$

Answer: Option **B**

Explanation:

Clearly, $n(S) = (6 \times 6) = 36$.

Let E = Event that the sum is a prime number.

Then E = { (1, 1), (1, 2), (1, 4), (1, 6), (2, 1), (2, 3), (2, 5), (3, 2), (3, 4), (4, 1), (4, 3), (5, 2), (5, 6), (6, 1), (6, 5) }

$\therefore$ $n(E) = 15$.

$\therefore$ $P(E) = \frac{n(E)}{n(S)} = \frac{15}{36} = \frac{5}{12}$.

219. An observer 1.6 m tall is 203 away from a tower. The angle of elevation from his eye to the top of the tower is 30º. The heights of the tower is:

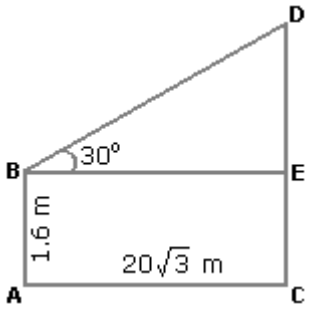
A. 21.6 m B. 23.2 m

C. 24.72 m D. None of these

Answer: Option **A**

Explanation:

Let AB be the observer and CD be the tower.



Draw BE ⊥ CD.

Then, CE = AB = 1.6 m,

BE = AC = 203 m.

$\frac{DE}{BE} = \tan 30^\circ = \frac{1}{\sqrt{3}}$

$\Rightarrow DE = \frac{203}{3}\text{m} = 20 \text{ m}.$

$\therefore$ CD = CE + DE = (1.6 + 20) m = 21.6 m.

Direction (for Q.No. 220):

Find the odd man out.

220. 1, 4, 9, 16, 23, 25, 36

A. 9

B. 23

C. 25

D. 36

Answer: Option **B**

Explanation:

Each of the numbers except 23, is perfect square.

221. In a regular week, there are 5 working days and for each day, the working hours are 8. A man gets Rs. 2.40 per hour for regular work and Rs. 3.20 per hours for overtime. If he earns Rs. 432 in 4 weeks, then how many hours does he work for ?

A. 160

B. 175

C. 180 D. 195

Answer: Option **B**

Explanation:

Suppose the man works overtime for x hours.

Now, working hours in 4 weeks = (5 x 8 x 4) = 160.

$\therefore$ 160 x 2.40 + x x 3.20 = 432

$\Rightarrow$ 3.20x = 432 - 384 = 48

$\Rightarrow$ x = 15.

Hence, total hours of work = (160 + 15) = 175.

222. $\left(\frac{625}{11} \times \frac{14}{25} \times \frac{11}{196}\right)$ is equal to:

A. 5 B. 6

C. 8 D. 11

Answer: Option **A**

Explanation:

Given Expression = $\frac{25}{11} \times \frac{14}{5} \times \frac{11}{14}$ = 5.

Direction (for Q.No. 223):

Each of the questions given below consists of a question followed by three statements. You have to study the question and the statements and decide which of the statement(s) is/are necessary to answer the question.

223. In a cricket team, the average age of eleven players in 28 years. What is the age of the captain?

I. The captain is eleven years older than the youngest player.

II. The average age of 10 players, other than the captain is 27.3 years.

III. Leaving aside the captain and the youngest player, the average ages of three groups of three players each are 25 years, 28 years and 30 years respectively.

A. Any two of the three

B. All I, II and III

C. II only or I and III only

D. II and III only

E. None of these

Answer: Option **C**

Explanation:

Total age of 11 players = (28 x 11) years = 308 years.

I. C = Y + 11 $\Rightarrow$ C - Y = 11 .... (i)

II. Total age of 10 players (excluding captain) = (27.3 x 10) years = 273 years.

$\therefore$ Age of captain = (308 - 273) years = 35 years.

Thus, C = 35. .... (ii)

From (i) and (ii), we get Y = 24

III. Total age of 9 players = [(25 x 3) + (28 x 3) + (30 x 3)] years = 249 years.

$\therefore$ C + Y = (308 - 249) = 59 .... (iii)

From (i) and (iii), we get C = 35.

Thus, II alone gives the answer.

Also, I and III together give the answer.

$\therefore$ Correct answer is (C).

224. In a two-digit, if it is known that its unit's digit exceeds its ten's digit by 2 and that the product of the given number and the sum of its digits is equal to 144, then the number is:

A. 24

B. 26

C. 42

D. 46

Answer: Option **A**

Explanation:

Let the ten's digit be x.

Then, unit's digit = $x + 2$.

Number = $10x + (x + 2) = 11x + 2$.

Sum of digits = $x + (x + 2) = 2x + 2$.

$\therefore$ $(11x + 2)(2x + 2) = 144$

$\Rightarrow 22x^2 + 26x - 140 = 0$

$\Rightarrow 11x^2 + 13x - 70 = 0$

$\Rightarrow (x - 2)(11x + 35) = 0$

$\Rightarrow x = 2$.

Hence, required number = $11x + 2 = 24$.

225. Find a positive number which when increased by 17 is equal to 60 times the reciprocal of the number.

A. 3 B. 10

C. 17 D. 20

Answer: Option **A**

Explanation:

Let the number be x.

Then, $x + 17 = \frac{60}{x}$

$\Rightarrow x^2 + 17x - 60 = 0$

$\Rightarrow (x + 20)(x - 3) = 0$

$\Rightarrow x = 3$.

226. Ayesha's father was 38 years of age when she was born while her mother was 36 years old when her brother four years younger to her was born. What is the difference between

the ages of her parents?

A. 2 years

B. 4 years

C. 6 years

D. 8 years

Answer: Option **C**

Explanation:

Mother's age when Ayesha's brother was born = 36 years.

Father's age when Ayesha's brother was born = (38 + 4) years = 42 years.

∴ Required difference = (42 - 36) years = 6 years.

Direction (for Q.No. 227):

Each of the questions given below consists of a question followed by three statements. You have to study the question and the statements and decide which of the statement(s) is/are necessary to answer the question.

227. What is the present age of Tanya?

I. The ratio between the present ages of Tanya and her brother Rahul is 3 : 4 respectively.

II. After 5 years the ratio between the ages of Tanya and Rahul will be 4 : 5.

III. Rahul is 5 years older than Tanya.

A. I and II only

B. II and III only

C. I and III only

D. All I, II and III

E. Any two of the three

Answer: Option **E**

Explanation:

I. Let the present ages of Tanya and Rahul be 3*x* years and 4*x* years.

II. After 5 years, (Tanya's age) : (Rahul's age) = 4 : 5.

III. (Rahul's age) = (Tanya's age) + 5.

From I and II, we get $\frac{3x + 5}{4x + 5} = \frac{4}{5}$. This gives x.

∴ Tanya's age = $3x$ can be found. Thus, I and II give the answer.

From I and III, we get $4x = 3x + 5$. This gives x.

∴ Tanya's age = $3x$ can be found. Thus, I and III give the answer.

From III : Let Tanya's present age be t years.

Then Rahul's present age = $(t + 5)$ years.

Thus, from II and III, we get : $\frac{t}{t + 5} = \frac{4}{5}$. This gives t.

Thus, II and III give the answer.

∴ Correct answer is (E).

228. In an election between two candidates, one got 55% of the total valid votes, 20% of the votes were invalid. If the total number of votes was 7500, the number of valid votes that the other candidate got, was:

A. 2700 B. 2900

C. 3000 D. 3100

Answer: Option **A**

Explanation:

Number of valid votes = 80% of 7500 = 6000.

∴ Valid votes polled by other candidate = 45% of 6000

$= \left(\frac{45}{100} \times 6000\right) = 2700.$

229. A trader mixes 26 kg of rice at Rs. 20 per kg with 30 kg of rice of other variety at Rs. 36 per kg and sells the mixture at Rs. 30 per kg. His profit percent is:

A. No profit, no loss
B. 5%
C. 8%
D. 10%
E. None of these

Answer: Option **B**

Explanation:

C.P. of 56 kg rice = Rs. (26 x 20 + 30 x 36) = Rs. (520 + 1080) = Rs. 1600.

S.P. of 56 kg rice = Rs. (56 x 30) = Rs. 1680.

$\therefore$ Gain $= \left(\frac{80}{1600} \times 100\right)\% = 5\%.$

Direction (for Q.No. 230):

Each of the questions given below consists of a statement and / or a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statement(s) is / are sufficient to answer the given question. Read the both statements and

- Give answer (A) if the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.
- Give answer (B) if the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.
- Give answer (C) if the data either in Statement I or in Statement II alone are sufficient to answer the question.
- Give answer (D) if the data even in both Statements I and II together are not sufficient to answer the question.
- Give answer(E) if the data in both Statements I and II together are necessary to answer the question.

230. A man mixes two types of rice (X and Y) and sells the mixture at the rate of Rs. 17 per kg. Find his profit percentage.

I. The rate of X is Rs. 20 per kg.

II. The rate of Y is Rs. 13 per kg.

A. I alone sufficient while II alone not sufficient to answer

B. II alone sufficient while I alone not sufficient to answer

C. Either I or II alone sufficient to answer

D. Both I and II are not sufficient to answer

E. Both I and II are necessary to answer

Answer: Option **D**

Explanation:

The ratio, in which X and Y are mixed, is not given.

So, both I and II together cannot give the answer.

∴ Correct answer is (D).

231. An industrial loom weaves 0.128 metres of cloth every second. Approximately, how many seconds will it take for the loom to weave 25 metres of cloth?

A. 178 B. 195

C. 204 D. 488

Answer: Option **B**

Explanation:

Le the required time be *x* seconds.

More metres, More time (Direct Proportion)

∴ 0.128 : 25 :: 1 : *x* ⇔ 0.128*x* = 25 x 1

$$x = \frac{25}{0.128} = \frac{25 \times 1000}{128}$$

$\Rightarrow x = 195.31.$

$\therefore$ Required time = 195 sec (approximately).

232. A takes twice as much time as B or thrice as much time as C to finish a piece of work. Working together, they can finish the work in 2 days. B can do the work alone in:

A. 4 days
B. 6 days
C. 8 days
D. 12 days

Answer: Option **B**

Explanation:

Suppose A, B and C take x, $\frac{x}{2}$ and $\frac{x}{3}$ days respectively to finish the work.

Then, $\left(\frac{1}{x} + \frac{2}{x} + \frac{3}{x}\right) = \frac{1}{2}$

$\Rightarrow \frac{6}{x} = \frac{1}{2}$

$\Rightarrow x = 12.$

So, B takes (12/2) = 6 days to finish the work.

233. If log 27 = 1.431, then the value of log 9 is:

A. 0.934
B. 0.945
C. 0.954
D. 0.958

Answer: Option **C**

Explanation:

log 27 = 1.431

$\Rightarrow \log (3^3) = 1.431$

$\Rightarrow 3 \log 3 = 1.431$

$\Rightarrow$ log 3 = 0.477

$\therefore$ log 9 = log(3^2) = 2 log 3 = (2 x 0.477) = 0.954.

234. If $\log_{10} 2 = 0.3010$, the value of $\log_{10} 80$ is:

A. 1.6020 B. 1.9030

C. 3.9030 D. None of these

Answer: Option **B**

Explanation:

$\log_{10} 80 = \log_{10} (8 \times 10)$

$= \log_{10} 8 + \log_{10} 10$

$= \log_{10} (2^3) + 1$

$= 3 \log_{10} 2 + 1$

$= (3 \times 0.3010) + 1$

$= 1.9030.$

235. The ratio between the length and the breadth of a rectangular park is 3 : 2. If a man cycling along the boundary of the park at the speed of 12 km/hr completes one round in 8 minutes, then the area of the park (in sq. m) is:

A. 15360 B. 153600

C. 30720 D. 307200

Answer: Option **B**

Explanation:

Perimeter = Distance covered in 8 min. = $\left(\frac{12000}{60} \times 8\right)$m = 1600 m.

Let length = 3x metres and breadth = 2x metres.

Then, 2(3x + 2x) = 1600 or x = 160.

∴ Length = 480 m and Breadth = 320 m.

∴ Area = (480 x 320) m^2 = 153600 m^2.

236. The slant height of a right circular cone is 10 m and its height is 8 m. Find the area of its curved surface.

A. 30π m^2

B. 40π m^2

C. 60π m^2

D. 80π m^2

Answer: Option **C**

Explanation:

l = 10 m,

h = 8 m.

So, $r = l^2 - h^2 = (10)^2 - 8^2$ = 6 m.

∴ Curved surface area = πrl = (π x 6 x 10) m^2 = 60π m^2.

237. A man wants to sell his scooter. There are two offers, one at Rs. 12,000 cash and the other a credit of Rs. 12,880 to be paid after 8 months, money being at 18% per annum. Which is the better offer?

A. Rs. 12,000 in cash

B. s. 12,880 at credit

C. Both are equally good

D. [NIL]

Answer: Option **A**

Explanation:

P.W. of Rs. 12,880 due 8 months hence $= \text{Rs.} \left[\frac{12880 \times 100}{100 + \left(18 \times \frac{8}{12}\right)}\right]$

$= \text{Rs.} \left(\frac{12880 \times 100}{\quad}\right)$

= Rs. 11500.

238. The banker's discount of a certain sum of money is Rs. 72 and the true discount on the same sum for the same time is Rs. 60. The sum due is:

A. Rs. 360

B. Rs. 432

C. Rs. 540

D. Rs. 1080

Answer: Option **A**

Explanation:

$$\text{Sum} = \frac{\text{B.D. x T.D.}}{\text{B.D. - T.D.}} = \text{Rs.} \left(\frac{72 \times 60}{72 - 60}\right) = \text{Rs.} \left(\frac{72 \times 60}{12}\right) = \text{Rs. } 360.$$

239. A man standing at a point P is watching the top of a tower, which makes an angle of elevation of 30º with the man's eye. The man walks some distance towards the tower to watch its top and the angle of the elevation becomes 60º. What is the distance between the base of the tower and the point P?

A. 43 units

B. 8 units

C. 12 units

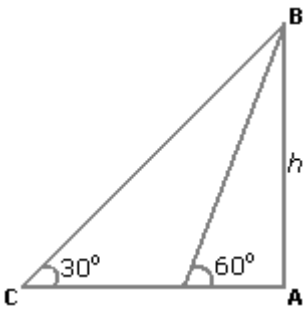
D. Data inadequate

E. None of these

Answer: Option **D**

Explanation:

One of AB, AD and CD must have given.



So, the data is inadequate.

Direction (for Q.No. 240):

Insert the missing number.

240. 8, 7, 11, 12, 14, 17, 17, 22, (....)

A. 27 B. 20

C. 22 D. 24

Answer: Option **B**

Explanation:

There are two series (8, 11, 14, 17, 20) and (7, 12, 17, 22) increasing by 3 and 5 respectively.

241. The least number which when divided by 5, 6 , 7 and 8 leaves a remainder 3, but when divided by 9 leaves no remainder, is:

A. 1677 B. 1683

C. 2523 D. 3363

Answer: Option **B**

Explanation:

L.C.M. of 5, 6, 7, 8 = 840.

∴ Required number is of the form $840k + 3$

Least value of k for which $(840k + 3)$ is divisible by 9 is $k = 2$.

∴ Required number = (840 x 2 + 3) = 1683.

242. If $\frac{144}{0.144} = \frac{14.4}{x}$, then the value of x is:

A. 0.0144 B. 1.44

C. 14.4

D. 144

Answer: Option **A**

Explanation:

$$\frac{144}{0.144} = \frac{14.4}{x}$$

$$\Rightarrow \frac{144 \times 1000}{144} = \frac{14.4}{x}$$

$$\Rightarrow x = \frac{14.4}{1000} = 0.0144$$

---

243. 617 + 6.017 + 0.617 + 6.0017 = ?

A. 6.2963

B. 62.965

C. 629.6357

D. None of these

Answer: Option **C**

Explanation:

```
  617.00
    6.017
    0.617
+   6.0017
 --------
  629.6357
 ---------
```

---

244. $\left(3 - \frac{1}{3}\right)^2$ simplifies to:

A. $\frac{3}{4}$

B. $\frac{4}{3}$

C. 4

D. None of these

3

Answer: Option **C**

Explanation:

$$\left(3 - \frac{1}{3}\right)^2 = (3)^2 + \left(\frac{1}{3}\right)^2 - 2 \times 3 \times \frac{1}{3}$$

$$= 3 + \frac{1}{3} - 2$$

$$= 1 + \frac{1}{3}$$

$$= \frac{4}{3}$$

245. The captain of a cricket team of 11 members is 26 years old and the wicket keeper is 3 years older. If the ages of these two are excluded, the average age of the remaining players is one year less than the average age of the whole team. What is the average age of the team?

A. 23 years
B. 24 years
C. 25 years
D. None of these

Answer: Option **A**

Explanation:

Let the average age of the whole team by x years.

$\therefore$ $11x - (26 + 29) = 9(x - 1)$

$\Rightarrow$ $11x - 9x = 46$

$\Rightarrow$ $2x = 46$

$\Rightarrow$ $x = 23$.

So, average age of the team is 23 years.

246. The present ages of three persons in proportions 4 : 7 : 9. Eight years ago, the sum of

their ages was 56. Find their present ages (in years).

A. 8, 20, 28

B. 16, 28, 36

C. 20, 35, 45

D. None of these

Answer: Option **B**

Explanation:

Let their present ages be $4x$, $7x$ and $9x$ years respectively.

Then, $(4x - 8) + (7x - 8) + (9x - 8) = 56$

$\Rightarrow 20x = 80$

$\Rightarrow x = 4.$

$\therefore$ Their present ages are $4x = 16$ years, $7x = 28$ years and $9x = 36$ years respectively.

Direction (for Q.No. 247):

Each of the questions given below consists of a statement and / or a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statement(s) is / are sufficient to answer the given question. Read the both statements and

- Give answer (A) if the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.
- Give answer (B) if the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.
- Give answer (C) if the data either in Statement I or in Statement II alone are sufficient to answer the question.
- Give answer (D) if the data even in both Statements I and II together are not sufficient to answer the question.
- Give answer(E) if the data in both Statements I and II together are necessary to answer the question.

247. Divya is twice as old as Shruti. What is the difference in their ages?

I. Five years hence, the ratio of their ages would be 9 : 5.

II. Ten years back, the ratio of their ages was 3 : 1.

A. I alone sufficient while II alone not sufficient to answer

B. II alone sufficient while I alone not sufficient to answer

C. Either I or II alone sufficient to answer

D. Both I and II are not sufficient to answer

E. Both I and II are necessary to answer

Answer: Option **C**

Explanation:

Let Divya's present age be D years and Shruti's present age b S years

Then, D = 2 x S ⇔ D - 2S = 0 ....(i)

I. $\frac{D + 5}{S + 5} = \frac{9}{5}$ ....(ii)

II. $\frac{D - 10}{S - 10} = \frac{3}{1}$ ....(iii)

From (ii), we get : 5D + 25 = 9S + 45 ⇔ 5D - 9S = 20 ....(iv)

From (iii), we get : D - 10 = 3S - 30 ⇔ D - 3S = -20 ....(v)

Thus, from (i) and (ii), we get the answer.

Also, from (i) and (iii), we get the answer.

∴ I alone as well as II alone give the answer. Hence, the correct answer is (C).

248. $(256)^{0.16}$ x $(256)^{0.09}$ = ?

A. 4

B. 16

C. 64

D. 256.25

Answer: Option **A**

Explanation:

$(256)^{0.16}$ x $(256)^{0.09}$ = $(256)^{(0.16 + 0.09)}$

= $(256)^{0.25}$

$= (256)^{(25/100)}$

$= (256)^{(1/4)}$

$= (4^4)^{(1/4)}$

$= 4^{4(1/4)}$

$= 4^1$

$= 4$

249. Three partners shared the profit in a business in the ratio 5 : 7 : 8. They had partnered for 14 months, 8 months and 7 months respectively. What was the ratio of their investments?

A. 5 : 7 : 8

B. 20 : 49 : 64

C. 38 : 28 : 21

D. None of these

Answer: Option **B**

Explanation:

Let their investments be Rs. x for 14 months, Rs. y for 8 months and Rs. z for 7 months respectively.

Then, $14x : 8y : 7z = 5 : 7 : 8$.

Now, $\frac{14x}{8y} = \frac{5}{7} \Leftrightarrow 98x = 40y \Leftrightarrow y = \frac{49}{20}x$

And, $\frac{14x}{7z} = \frac{5}{8} \Leftrightarrow 112x = 35z \Leftrightarrow z = \frac{112}{35}x = \frac{16}{5}x.$

$\therefore\ x : y : z = x : \frac{49}{20}x : \frac{16}{5}x = 20 : 49 : 64.$

250. A starts business with Rs. 3500 and after 5 months, B joins with A as his partner. After a year, the profit is divided in the ratio 2 : 3. What is B's contribution in the capital?

A. Rs. 7500

B. Rs. 8000

C. Rs. 8500

D. Rs. 9000

Answer: Option **D**

Explanation:

Let B's capital be Rs. *x*.

Then, $\left(\frac{3500 \times 12}{7x} = \frac{2}{3}\right)$

$\Rightarrow 14x = 126000$

$\Rightarrow x = 9000.$

Direction (for Q.No. 251):

Each of the questions given below consists of a statement and / or a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statement(s) is / are sufficient to answer the given question. Read the both statements and

- Give answer (A) if the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.
- Give answer (B) if the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.
- Give answer (C) if the data either in Statement I or in Statement II alone are sufficient to answer the question.
- Give answer (D) if the data even in both Statements I and II together are not sufficient to answer the question.
- Give answer(E) if the data in both Statements I and II together are necessary to answer the question.

251. Ravi, Gagan and Nitin are running a business firm in partnership. What is Gagan's share in the profit earned by them?

I. Ravi, Gagan and Nitin invested the amounts in the ratio of 2 : 4 : 7.

II. Nitin's share in the profit is Rs. 8750.

A. I alone sufficient while II alone not sufficient to answer

B. II alone sufficient while I alone not sufficient to answer

C. Either I or II alone sufficient to answer

D. Both I and II are not sufficient to answer

E. Both I and II are necessary to answer

Answer: Option **E**

Explanation:

Let us name Ravi, Gagan and Nitin by R, G and N respectively.

I. R : G : N = 2 : 4 : 7.

II. N = 8750..

From I and II, we get:

When N = 7, then G = 4.

When N = 8750, then G = $\left(\frac{4}{7} \text{ x } 8750\right)$ = 5000.

Thus, both I and II are needed to get the answer.

∴ Correct answer is (E).

252. A wheel that has 6 cogs is meshed with a larger wheel of 14 cogs. When the smaller wheel has made 21 revolutions, then the number of revolutions mad by the larger wheel is:

A. 4 B. 9

C. 12 D. 49

Answer: Option **B**

Explanation:

Let the required number of revolutions made by larger wheel be *x*.

Then, *More cogs, Less revolutions (Indirect Proportion)*

∴ 14 : 6 **::** 21 : *x* ⇔ 14 x *x* = 6 x 21

$\Rightarrow x = \frac{6 \text{ x } 21}{14}$

⇒ *x* = 9.

253. 10 women can complete a work in 7 days and 10 children take 14 days to complete the work. How many days will 5 women and 10 children take to complete the work?

A. 3
B. 5
C. 7
D. Cannot be determined
E. None of these

Answer: Option **C**

Explanation:

1 woman's 1 day's work = $\frac{1}{70}$

1 child's 1 day's work = $\frac{1}{140}$

(5 women + 10 children)'s day's work = $\left(\frac{5}{70} + \frac{10}{140}\right) = \left(\frac{1}{14} + \frac{1}{14}\right) = \frac{1}{7}$

$\therefore$ 5 women and 10 children will complete the work in 7 days.

254. Two pipes can fill a tank in 20 and 24 minutes respectively and a waste pipe can empty 3 gallons per minute. All the three pipes working together can fill the tank in 15 minutes. The capacity of the tank is:

A. 60 gallons
B. 100 gallons
C. 120 gallons
D. 180 gallons

Answer: Option **C**

Explanation:

Work done by the waste pipe in 1 minute = $\frac{1}{15} - \left(\frac{1}{20} + \frac{1}{24}\right)$

$= \left(\frac{1}{15} - \frac{11}{120}\right)$

$= -\frac{1}{40}$. [-ve sign means emptying]

$\therefore$ Volume of $\frac{1}{40}$ part = 3 gallons.

Volume of whole = (3 x 40) gallons = 120 gallons.

255. A train 240 m long passes a pole in 24 seconds. How long will it take to pass a platform 650 m long?

A. 65 sec
B. 89 sec
C. 100 sec
D. 150 sec

Answer: Option **B**

Explanation:

Speed = $\left(\frac{240}{24}\right)$ m/sec = 10 m/sec.

$\therefore$ Required time = $\left(\frac{240 + 650}{10}\right)$ sec = 89 sec.

256. A jogger running at 9 kmph alongside a railway track in 240 metres ahead of the engine of a 120 metres long train running at 45 kmph in the same direction. In how much time will the train pass the jogger?

A. 3.6 sec
B. 18 sec
C. 36 sec
D. 72 sec

Answer: Option **C**

Explanation:

Speed of train relative to jogger = (45 - 9) km/hr = 36 km/hr.

$= \left(36 \times \frac{5}{18}\right)$ m/sec

= 10 m/sec.

Distance to be covered = (240 + 120) m = 360 m.

$\therefore$ Time taken = $\left(\frac{360}{10}\right)$ sec = 36 sec.

257. Two goods train each 500 m long, are running in opposite directions on parallel tracks. Their speeds are 45 km/hr and 30 km/hr respectively. Find the time taken by the slower train to pass the driver of the faster one.

A. 12 sec

B. 24 sec

C. 48 sec

D. 60 sec

Answer: Option **B**

Explanation:

Relative speed = = (45 + 30) km/hr

$= \left(75 \times \frac{5}{18}\right)$ m/sec

$= \left(\frac{125}{6}\right)$ m/sec.

We have to find the time taken by the slower train to pass the DRIVER of the faster train and not the complete train.

So, distance covered = Length of the slower train.

Therefore, Distance covered = 500 m.

$\therefore$ Required time = $\left(500 \times \frac{6}{125}\right)$ = 24 sec.

258. A boatman goes 2 km against the current of the stream in 1 hour and goes 1 km along the current in 10 minutes. How long will it take to go 5 km in stationary water?

A. 40 minutes

B. 1 hour

C. 1 hr 15 min

D. 1 hr 30 min

Answer: Option **C**

Explanation:

Rate downstream = $\left(\frac{1}{10} \times 60\right)$ km/hr = 6 km/hr.

Rate upstream = 2 km/hr.

Speed in still water = $\frac{1}{2}(6 + 2)$ km/hr = 4 km/hr.

$\therefore$ Required time = $\left(\frac{5}{4}\right)$ hrs = $1\frac{1}{4}$ hrs = 1 hr 15 min.

259. 8 litres are drawn from a cask full of wine and is then filled with water. This operation is performed three more times. The ratio of the quantity of wine now left in cask to that of water is 16 : 65. How much wine did the cask hold originally?

A. 18 litres

B. 24 litres

C. 32 litres

D. 42 litres

Answer: Option **B**

Explanation:

Let the quantity of the wine in the cask originally be x litres.

Then, quantity of wine left in cask after 4 operations = $\left[x\left(1 - \frac{8}{x}\right)^4\right]$ litres.

$\therefore$ $\left(\frac{x(1 - (8/x))^4}{x}\right) = \frac{16}{81}$

$\Rightarrow \left(1 - \frac{8}{}\right)4 = \left(\frac{2}{}\right)4$

$x \qquad 3$

$\Rightarrow \left(\frac{x-8}{x}\right) = \frac{2}{3}$

$\Rightarrow 3x - 24 = 2x$

$\Rightarrow x = 24.$

260. A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?

A. $\frac{10}{21}$ B. $\frac{11}{21}$

C. $\frac{2}{7}$ D. $\frac{5}{7}$

Answer: Option **A**

Explanation:

Total number of balls = (2 + 3 + 2) = 7.

Let S be the sample space.

Then, $n(S)$ = Number of ways of drawing 2 balls out of 7

$= {}^{7}C_{2}$ `

$= \frac{(7 \times 6)}{(2 \times 1)}$

$= 21.$

Let E = Event of drawing 2 balls, none of which is blue.

$\therefore$ $n(E)$ = Number of ways of drawing 2 balls out of (2 + 3) balls.

$= {}^{5}C_{2}$

$$= \frac{(5 \times 4)}{(2 \times 1)}$$

$= 10.$

$$\therefore \quad P(E) = \frac{n(E)}{n(S)} = \frac{10}{21}.$$

Test : Number System

1. The sum of first five prime numbers is:
   A.11 B.18
   C.26 D.28

2. The difference of two numbers is 1365. On dividing the larger number by the smaller, we get 6 as quotient and the 15 as remainder. What is the smaller number ?
   A.240 B.270
   C.295 D.360

3. If the number 517*324 is completely divisible by 3, then the smallest whole number in the place of * will be:
   A.0 B.1
   C.2 D.None of these

4. Which one of the following numbers is exactly divisible by 11?
   A.235641 B.245642
   C.315624 D.415624

5. The sum of first 45 natural numbers is:
   A.1035 B.1280
   C.2070 D.2140

6. The difference between the local value and the face value of 7 in the numeral 32675149 is
   A.75142 B.64851
   C.5149 D.69993

7. On dividing a number by 56, we get 29 as remainder. On dividing the same number by 8, what will be the remainder ?
   A.4 B.5
   C.6 D.7

8. If n is a natural number, then $(6n^2 + 6n)$ is always divisible by:
   A.6 only B.6 and 12 both
   C.12 only D.by 18 only

9. What will be remainder when $(67^{67} + 67)$ is divided by 68 ?
   A.1 B.63
   C.66 D.67

10. A 3-digit number 4a3 is added to another 3-digit number 984 to give a 4-digit number 13b7, which is divisible by 11. Then, $(a + b)$ = ?
    A.10 B.11
    C.12 D.15

Test: HCF AND LCM

11. Find the greatest number that will divide 43, 91 and 183 so as to leave the same remainder in each case.
A.4 B.7
C.9 D.13

12. The H.C.F. of two numbers is 23 and the other two factors of their L.C.M. are 13 and 14. The larger of the two numbers is:
A.276 B.299
C.322 D.345

13. The greatest number of four digits which is divisible by 15, 25, 40 and 75 is:
A.9000 B.9400
C.9600 D.9800

14. The product of two numbers is 4107. If the H.C.F. of these numbers is 37, then the greater number is:
A.101 B.107
C.111 D.185

15. The G.C.D. of 1.08, 0.36 and 0.9 is:
A.0.03 B.0.9
C.0.18 D.0.108

16. The product of two numbers is 2028 and their H.C.F. is 13. The number of such pairs is:
A.1 B.2
C.3 D.4

17. Find the lowest common multiple of 24, 36 and 40.
A. 120 B. 240
C. 360 D. 480

18. The least number which should be added to 2497 so that the sum is exactly divisible by 5, 6, 4 and 3 is:
A. 3 B. 13
C. 23 D. 33

19. The H.C.F. of two numbers is 11 and their L.C.M. is 7700. If one of the numbers is 275, then the other is:
A. 279 B. 283
C. 308 D. 318

20. The smallest number which when diminished by 7, is divisible 12, 16, 18, 21 and 28 is:
A.1008 B.1015
C.1022 D.1032

Test: Simplification

21. Which of the following fractions is greater than $\frac{3}{4}$ and less than $\frac{5}{6}$?

A. $\frac{1}{2}$ B. $\frac{2}{3}$

C. $\frac{4}{5}$ D. $\frac{9}{10}$

22. 617 + 6.017 + 0.617 + 6.0017 = ?

A.6.2963 B.62.965

C.629.6357 D.None of these

23. 0.002 x 0.5 = ?

A.0.0001 B.0.001

C.0.01 D.0.1

24. 34.95 + 240.016 + 23.98 = ?

A.298.0946 B.298.111

C.298.946 D.299.09

25. How many digits will be there to the right of the decimal point in the product of 95.75 and .02554 ?

A.5 B.6

C.7 D.None of these

Test: Age

26. The present ages of three persons in proportions 4 : 7 : 9. Eight years ago, the sum of their ages was 56. Find their present ages (in years).

A. 8, 20, 28 **B.** 16, 28, 36

C. 20, 35, 45 **D.** None of these

27. Ayesha's father was 38 years of age when she was born while her mother was 36 years old when her brother four years younger to her was born. What is the difference between the ages of her parents?

A. 2 years **B.** 4 years

C. 6 years **D.** 8 years

28. A person's present age is two-fifth of the age of his mother. After 8 years, he will be one-half of the age of his mother. How old is the mother at present?

A. 32 years **B.** 36 years

C. 40 years **D.** 48 years

29. Q is as much younger than R as he is older than T. If the sum of the ages of R and T is 50 years, what is definitely the difference between R and Q's age?

A. 1 year **B.** 2 years

C. 25 years **D.** Data inadequate

30. The age of father 10 years ago was thrice the age of his son. Ten years hence, father's age will be twice that of his son. The ratio of their present ages is:

A. 5 : 2 **B.** 7 : 3

C. 9 : 2 **D.** 13 : 4

Test: Coding and Decoding

31. In a certain code, RIPPLE is written as 613382 and LIFE is written as 8192. How is PILLER written in that code ?

a) 318826 b) 318286 c) 618826 d) 338816

32. If in a certain code, TWENTY is written as 863985 and ELEVEN is written as 323039, how is TWELVE written in that code ?

a) 863203 b) 863584 c) 863903 d) 863063

33. If in a certain language FLOWER is written as EKNVDQ, what will be written as GNTRD?

a) HEOUS b) HOUES c) HUOSE d) HOUSE

34. In a certain code 'TOME' is written as ' @ $ * ? ' and ARE is written as ' • £ ? ' How can 'REMOTE' be written in that code?

a) £ ? • $ @ ? b) @ ? * $ @ ? c) £ ? * $ @ ? d)Cannot be determined

35. In a certain code ORANGE is written as ? ÷ @ • + * and EAT is written as ' * @ $'. How can ROTATE be written in that code?

a) ÷ ? $ @ * $ b)÷ ? $ @ • * c) ÷ ? $ @ $ * d) ÷ ? $ * • @

36. In a certain code 'PALM' is written as ' £ @ ? $ ' and 'ARM' is written as ' @ * $ '. How can 'ALARM' be written in that code?

a) @ £ @ ? $ b) @ $? £ @ c) ? @ @ £ $ d) None

37. In a certain code 'BODE' is written as ' @ $ * ? ' and 'EAT' is written as ' ? • £ ' How can 'DEBATE' be written in that code?

a) ? * @ * £ • b) * ? @ • £ ? c) * ? @ * £ ? d) Cannot be determined

Directions (38-40): The number in each question below is to be codified in the following code.

Digit: 5 3 7 1 4 9 6 2 8

Letter: C J O X N Q T Z F

38. 163542

a)XTJCNZ b)TXJCNZ c)XTJCZN d)XTCJNZ

39. 925873

a)ZQCFOJ b)QZCFOJ c) QZCOFJ d)QZCFJO

40. 741568

a)ONCXTF b) NOXCFT c)ONCFCT d)ONXCTF

Test: Directions

41. A man leaves for his office from his house.He walks towards East.After moving a distance of 20 m ,he turns South and walks 10 m.Then he walks 35 m towards the West and further 5 m towards the North .He then turns towards East and walks 15 m .What is the straight distance between his initial and final positions?

A.) 0 B.) 5

C.) 10 D.) None of these

42. Murari walked 40 m towards North,took a left turn and walked 20 m .He again took a left turn and walked for 40 km.How far and in which direction is he from the starting point?

A.) 20 m West B.) 20 m South

C.) 20 m East D.) 20 m North

43. Nishitha walks 14 m towards west,then turns to her right and walks 14 m and then turns to her left and walks 10 m.Again turning to her left she walks 14 m .What is the shortest distance between her starting point and the present position?

A.) 14 B.) 24

C.) 34 D.) 44

44. Vinay walks a distance of 3 km towards North,then he turns to his left and walks for 2 km .He again turns left and walks for 3 km .At this point he turns to his left and walks for 3 km.How many km is he from the starting point?

A.) 1 km B.) 2 km

C.) 3 km D.) 4 km

45. Dharma walks 10 km toward North.From there ,he walks 6 km towards South .Then ,he walks 3 km towards East.How far and in which direction is he with reference to his starting point?

A.) 2 km South-East B.) 5 km South-East

C.) 5 km North-East D.) 5 km West

Test: Choose or find odd number:

46. 8, 12, 16, 21, 24, 28, 32.
(a) 21 (b) 24 (c) 28 (d) 32
47. 111, 133, 143, 155, 188, 200.
(a) 111 (b) 143 (c) 200 (d) None of these.
48. 231, 121, 363, 253, 284, 352, 374.
(a) 121 (b)284 (c) 374 (d) None of these.
49. Find the odd pair of numbers.
(a) 55 – 42 (b) 69 – 56 (c) 48 – 34 (d) 95 – 82
50. 3, 5, 11, 14, 17, 21
(a) 21 (b) 17 (c) 14 (d) 3

Test: Sitting Arrangements

Directions (Q. 51 -55) Study the following information carefully and answer the questions given below.

Bunty, Dev, Manav, Kavya, Payal, Qasturba, Wasir and Himmat are sitting around a circle facing at the centre. Manav is to the immediate right of Bunty who is 4^{th} to the right of Kavya. Payal is $2^{nd}$to the left of Bunty and is 4^{th} to the right of Wasir. Qasturba is 2^{nd} to the right of Dev who is $2^{nd}$to the right of Himmat.

Q51. Who is 3^{rd} to the right of Bunty?

a) Wasir b) Manav c) Kavya d) Himmat e) None of these

Q52. Which of the following represents the immediate neighbours of D?

a) Payal and Qasturba b) Kavya and Himmat c) Payal and Himmat
d) Kavya and Qasturba e) Payal and Kavya

Q53. Who is 3rd to the right of Wasir?

a) Payal b) Dev c) Kavya

d) Qasturba e) Data inadequate

Q54. Who is 2nd to the left of Payal?

a) Dev b) Himmat c) Kavya

d) Data inadequate e) None of these

Q55. Who is to the immediate left of Bunty?

a) Qasturba b) Payal c) Wasir

d) Data inadequate e) None of these

Directions (Q. 56 - 60) Study the following information carefully to answer these questions.

Amrit, Bector, Chinky, Deepinder, Eeshwar, Fancy, Gurkamal and Hero are sitting around a circle facing the centre. Fancy is third to the right of Chinky and second to the left of Hero. Deepinder is not an immediate neighbor of Chinky or Hero. Eeshwar is to the immediate right of Amrit, who is second to the right of Gurkamal.

Q56. Who is second to the left of Chinky?

a) Amrit b) Bector c) Eeshwar d) Deepinder e) None of these

Q57. Who is to the immediate right of Chinky?

a) Amrit b) Bector c) Deepinder d) Bector or Deepinder e) None of these

Q58. Which of the following pairs of persons has first person sitting to the right of the second person?

a) Chinky and Bector b) Amrit and Eeshwar c) Fancy and Gurkamal

d) Hero and Amrit e) Deepinder and Bector

Q59. Who sits between Gurkamal and Deepinder?

a) Hero b) Deepinder c) Fancy

d) Eeshwar e) None of these

Q60. Which of the following is the correct position of Bector with respect to Hero?

I. Second to the right

II. Fourth to the right

III. Fourth to the left

IV. Second to the left

a) Only I b) Only II c) Only III

d) Both II and III e) None of these

Test:- Series

61. QAR, RAS, SAT, TAU, _____

a) UAV b) UAT c) TAS d) TAT

62. SCD, TEF, UGH, ____, WKL

a) CMN b) UJI c) VIJ d) IJT

63. QPO, NML, KJI, _____, EDC

a) HGF b) CAB c) JKL d) GHI

64. JAK, KBL, LCM, MDN, _____

a) OEP b) NEO c) MEN d) PFQ

65. CMM, EOO, GQQ, _____ , KUU

a) GRR b) GSS c) ISS d) ITT

Study the following arrangement carefully and answer the questions(66-70) given below.

B 5 R 1 @ E K 4 F 7 © D A M 2 P 3 % 9 H 1 W 8 * 6 U J $ V Q #

66. Which of the following is the sixth to the left of the seventeenth from the left end of the above arrangement?

a) © b) 7 c) D d) A

67. Which of the following is exactly in the middle between 7 and $ in the above arrangement?

a) % b) 9 c) H d) 3

68. Four of the following five are alike in a certain way based on their position in the above arrangement and so form a group. Which is the one that does not belong to that group?

a) PM3 b) KFE c) 6J* d) 7D4

69. How many such symbols are there in the above arrangement each of which is immediately preceded by a number but not immediately followed by a consonant?

a) ONE b) TWO c) THREE d) NONE OF THESE

70. How many such consonants are there in the above arrangement each of which is immediately followed by another consonant but not immediately preceded by a symbol?

a) ONE b) TWO c) THREE d) NONE OF THESE

Test:Sqaure Roots

71. If $x\sqrt{512}=\sqrt{648x}$, find the value of x.

A. 24 B. 12

C. 48 D. 36

72. √5.4756 = ?

A. 2.24 B. 1.24

C. 1.34 D. 2.34

73. If 3√5+√125 = 17.88, then what will be the value of √80+16√5?

A. 21.66 B. 13.41

C. 22.35 D. 44.7

74. The cube root of 0.000729 is

A. 0.09 B. 0.9

C. 0.21 D. 0.11

75. What is the least perfect square which is divisible by each of 21, 36 and 66?

A. 213444 B. 214434

C. 214344 D. 231444

76. √14411×11√225×15√196 is equal to:

A. 0.85 B. 0.72

C. 2.8 D. 0.4

77. (√7−1√7)2 simplifies to:

A. 36√7 B. 736

C. 367 D. 7√36

78. The square root of 16641 is

A. 129 B. 121

C. 211 D. 229

79. √0.0576×?=0.24.

A. None of these B. 10

C. 1 D. 0.1

80. √0.000256×?=1.6.

A. 0.1 B. 10

C. 10000 D. 1000

Test: Trains

81. A train is running at a speed of 40 km/hr and it crosses a post in 18 seconds. What is the length of the train?

A. 190 metres B. 160 metres

C. 200 metres D. 120 metres

82. A train ,130 meters long travels at a speed of 45 km/hr crosses a bridge in 30 seconds. The length of the bridge is

A. 270 m B. 245 m

C. 235 m D. 220 m

83. A train has a length of 150 meters . it is passing a man who is moving at 2 km/hr in the same direction of the train, in 3 seconds. Find out the speed of the train.

A. 182 km/hr B. 180 km/hr

C. 152 km/hr D. 169 km/hr

84. A train having a length of 240 m passes a post in 24 seconds. How long will it take to pass a platform having a length of 650 m?

A. 120 sec B. 99 s

C. 89 s D. 80 s

85. A train 360 m long runs with a speed of 45 km/hr. What time will it take to pass a platform of 140 m long?

A. 38 sec B. 35 s

C. 44 sec D. 40 s

86. Two trains running in opposite directions cross a man standing on the platform in 27 seconds and 17 seconds respectively . If they cross each other in 23 seconds, what is the ratio of their speeds?

A. Insufficient data B. 3 : 1

C. 1 : 3 D. 3 : 2

87. A jogger is running at 9 kmph alongside a railway track in 240 meters ahead of the engine of a 120 meters long train . The train is running at 45 kmph in the same direction. how much time does it take for the train to pass the jogger?

A. 46 B. 36

C. 18 D. 22

88. Two trains of equal length are running on parallel lines in the same direction at 46 km/hr and 36 km/hr. If the faster train passes the slower train in 36 seconds,what is the length of each train?

A. 88 B. 70

C. 62 D. 50

89. Two trains having length of 140 m and 160 m long run at the speed of 60 km/hr and 40 km/hr respectively in opposite directions (on parallel tracks). The time which they take to cross each other, is

A. 10.8 s B. 12 s

C. 9.8 s D. 8 s

90. Two trains are moving in opposite directions with speed of 60 km/hr and 90 km/hr respectively. Their lengths are 1.10 km and 0.9 km respectively. the slower train cross the faster train in --- seconds

A. 56 B. 48

C. 47 D. 26

Test: Simple Interest

91. How much time will it take for an amount of Rs. 900 to yield Rs. 81 as interest at 4.5% per annum of simple interest?

A. 2 years B. 3 years

C. 1 year D. 4 years

92. Arun took a loan of Rs. 1400 with simple interest for as many years as the rate of interest. If he paid Rs.686 as interest at the end of the loan period, what was the rate of interest?

A. 8% B. 6%

C. 4% D. 7%

93. A sum of money at simple interest amounts to Rs. 815 in 3 years and to Rs. 854 in 4 years. The sum is :

A. Rs. 700 B. Rs. 690

C. Rs. 650 D. Rs. 698

94. A sum fetched a total simple interest of Rs. 929.20 at the rate of 8 p.c.p.a. in 5 years. What is the sum?

A. Rs. 2323 B. Rs. 1223

C. Rs. 2563 D. Rs. 2353

95. Mr. Thomas invested an amount of Rs. 13,900 divided in two different schemes A and B at the simple interest rate of 14% p.a. and 11% p.a. respectively. If the total amount of simple interest earned in 2 years be Rs. 3508, what was the amount invested in Scheme B?

A. Rs. 6400 B. Rs. 7200

C. Rs. 6500 D. Rs. 7500

96. A person borrows Rs.5000 for 2 years at 4% p.a. simple interest. He immediately lends it to another person at $6\frac{1}{4}$% p.a for 2 years. Find his gain in the transaction per year.

A. Rs. 167.50 B. Rs. 150

C. Rs.225 D. Rs. 112.50

97. What will be the ratio of simple interest earned by certain amount at the same rate of interest for 5 years and that for 15 years?

A. 3 : 2 B. 1 : 3

C. 2 : 3 D. 3 : 1

98. A sum of money amounts to Rs.9800 after 5 years and Rs.12005 after 8 years at the same rate of simple interest. The rate of interest per annum is

A. 15% B. 12%

C. 8% D. 5%

99. A certain amount earns simple interest of Rs. 1200 after 10 years. Had the interest been 2% more, how much more interest would it have earned?

A. Rs. 25 B. None of these

C. Rs. 120 D. Cannot be determined

100. A man took loan from a bank at the rate of 8% p.a. simple interest. After 4 years he had to pay Rs.

6200 interest only for the period. The principal amount borrowed by him was:

A. Rs.17322

B. Rs.20245

C. Rs.18230

D. Rs.19375

Test: Percentage

1. Two students appeared at an examination. One of them secured 9 marks more than the other and his marks was 56% of the sum of their marks. What are the marks obtained by them?

   A. 42, 33 B. 42, 36

   C. 44, 33 D. 44, 36

2. If 20% of a = b, then b% of 20 is the same as:

   A. None of these B. 10% of a

   C. 4% of a D. 20% of a

3. Two numbers A and B are such that the sum of 5% of A and 4% of B is two-third of the sum of 6% of A and 8% of B. Find the ratio of A : B.

   A. 2 : 1 B. 1 : 2

   C. 1 : 1 D. 4 : 3

4. Two employees X and Y are paid a total of Rs. 550 per week by their employer. If X is paid 120 percent of the sum paid to Y, how much is Y paid per week?

   A. Rs 150 B. 130

   C.Rs. 250 D. Rs. 200

5. If number xx is 10% less than another number yy and yy is 10% more than 125, then find out the value of xx.

   A. 123 B. 122

   C. 122.25 D. 123.75

6. 1/3%of 240

   A. 72 B. 16

   C. 80 D. None

7. 1/9%of 900

   A. 100 B. 20 C. 81 D. None

8. What percent is 70 of 280?

A. 25% B. 50% C. 75% D. None

9. A number increased by 20% gives 480. The number is

A. 380 B.4 20 C. 400 D. 300

10. A' salary is 30% less than B' salary but 25% more than C's salary. If A's salary is Rs.90 less than B's salary, find the salary of C.

A. 300 B.125 C. 168 D. 320

Test:- Series

11. Which number would replace the question mark in series 7,12,19,?,39

a) 24 b) 28 c) 31 d) 33\

12. Which number would replace the question mark in series 5,9,17,29,45, ?

a) 50 b) 60 c) 65 d) 70

13. 2, 10, 40, 120,____

a) 240 b) 360 c) 470 d) 210

14. Look at this series: 7, 10, 8, 11, 9, 12,

What number should come next?

a) 7b) 19 c) 15 d) 18

15. 64, 32, 16, 8, 4, __

a) 4b) 6 c) 2 d) 1

16.Find the wrong number in the given series?

2, 5, 13, 23, 27, 41, 37, 67,

a) 23 b) 41 c) 37 d) 27

17.Look at this series: 3, 4, 7, 8, 11, 12,….

What number should come next ?

a) 7b) 10 c) 15 d) 20

18. 18, 10, 6, 4, __.

a) 2b) 3 c) 5 d) 7

19. ELFA, GLHA, ILJA, _____, MLNA

a) OLPA b) KLMA c) LLMA d)KLLA

20. FAG, GAF, HAI, IAH, ____

a) JAK b) HAL c) HAK d) JAI

Test: Choose or find odd number:

21. 43 53 , 63 , 73 , 83
    a) 43 b) 53 c) 63 d) 73
22. 51, 64, 78, 91, 104, 117.
    (a) 51 (b) 78 (c) 104 (d) 130
23. 147, 125, 103, 81, 58, 36, 14.
    (a) 147 (b) 103 (c) 58 (d) 14
24. 5, 15, 45, 137, 411, 1233.
    (a) 137 (b) 1233 (c) 5 (d) None of these.
25. 17, 21, 26, 30, 34, 38, 42.
    (a) 21 (b) 26 (c) 30 (d) None of these.
26. Which is the odd one out?
    (a) 10 + 9 (b) 19 – 0 (c) 95 ÷ 5 (d) 19 × 0
27. Which is the odd one out?
    (a) 55 – 44 (b) 121 ÷ 11 (c) 11 + 1 (d) 11 × 1
28. Which is the odd one out?
    (a) 1 + 5 (b) 18 – 12 (c) 3 × 2 (d) 6 ÷ 3
29. 15, 25, 30, 34, 40, 50, 65, 75.
    (a) 15 (b) 34 (c) 50 (d) 75
30. 4, 9, 25, 35, 36, 64.
    (a) 9 (b) 35 (c) 36 (d) None of these

Test: Coding and Decoding

31. If TAP is coded as SZO, then how is FREEZE coded ?
    a) ATSSTS b) EQDDYD c) ESDDYD d) EQDDZD
32. In a certain code, SIKKIM is written as THLJJL, how is TRAINING written in that code?
    a) SQBHOHOF b) UQBHOIOF c) UQBHOHOI d) UQBHOHOF
33. In a certain code, MENTION is written as LNEITNO. How is PATTERN written in that code ?
    a) ATAETNR b) OTAETNR c) OTAESNR d) STAETNR
34. In a certain code, TOGETHER is written as RQEGRJCT. In the same code, PAROLE will be written as,
    a) RYPQJG b) RCPQJG c) NCPQJG d) NCPQJC
35. If COOL is coded as DQRP, then write the code for HOT
    a) JQW b) IQW c) IQX d) IPW
36. If in a certain language, COUNSEL is coded as BITIRAK, how is GUIDANCE written in that code ?
    a) EOHYZJBB b) FOIYZJBB c) FOHYZJBB d) None of above
37. If FRIEND is coded as HUMJTK, how is CANDLE written in that code ?
    a) EDRIRL b) DCQHQK c) DEQJQM d) FYOBOC

38. If in a certain language, MADRAS is coded as NBESBT, how is BOMBAY coded in that code ?
    a) CPNCBX b) CPNCBZ c) CPOCBZ d) CQOCBZ
39. If in a code language, COULD is written as BNTKC and MARGIN is written as LZQFHM, how will MOULDING be written in that code ?
    a) CHMFINTK b) LNKTCHMF c) LNTKCHMF d) NITKHCMF
40. If DELHI is coded as 73541 and CALCUTTA as 82589662, how can CALICUT be coded ?
    a) 5279431 b) 5978213 c) 8251896 d) 8543691

Test: Directions

41. Siva Reddy walked 2 km west of his house and then turned south covering 4 km. Finally,

He moved 3 km towards east and then again 1 km west. How far is he from his initial position?

A.) 10 km B.) 9 km

C.) 2 km D.) 4 km

42. A man walks 6 km to the east and then turn to the south 2 km. Again he turns to the east and

walks 2 km. Next he turns northwards and walks 8 km. How far is he now from his starting point?

A.) 18 km B.) 10 km

C.) 16 km D.) 12 km

43. Rajesh's school bus is facing North when reaches his school. After starting from Rajesh's house, it turning twice and then left before reaching the school. What direction the bus facing when it left the bus stop in front of Rajesh's house?

A.) East B.) North

C.) South D.) West

44. Anil wants to go the university. He starts from his house which is in the East and comes to a crossing. The road to his left ends in a theatre, straight ahead is the hospital. In which direction is the University?

A.) East B.) North

C.) South D.) West

45. If South-East becomes North, North-East becomes West and so on, what will West become?

A.) North

B.) East

C.) South-East

D.) North-West

46. A man walks 1 km towards East and then he turns to South and walks 5 km.Again he turns to East and walks 2 km,after this he turns to North and walks 9 km .Now,how far is he from his starting point?

A.) 10 km

B.) 9 km

C.) 5 km

D.) 4 km

47. I am facing South.I turn right and walk 20 m .Then I turn right again and walk 10 m .Then I turn left and walk 10 m and then turning right walk 20 m.Then,I turn right again and walks 60 m.In which direction am I from the starting point?

A.) North-East

B.) North-West

C.) North

D.) West

48. A villager went to meet his uncle in another village situated 5 km away in the North-East direction of his own village.From there he came to meet his father-in-law living in a village situated 4 km in the south of his uncle's village .How far away and in what direction is he now?

A.) 4 km in the East

B.) 3 km in the East

C.) 4 km in the west

D.) 3 km in the North

49. Dhanumjay walks 10 m towards the South .Turning to the left ,he walks 20 m and then moves to his right. After moving a distance of 20 m ,he turns to the right and walks 20 m.Finally,he turns to the right and moves a distance of 10 m .How far and in which direction is he from the starting point?

A.) 20 m North

B.) 20 m South

C.) 10 m North

D.) 10 m South

50. Arjun walked 30 m towards East ,took a right turn and walked 40 m .Then he took a left turn and walked 30 m .In which direction is he now from the starting point?

A.) South-East

B.) South

C.) North-East D.) East

Test: Blood Relations

51. Pointing towards Vaman, Madhav said “I am the only son of his father’s one of the sons.” How Vaman is related to Madhav?

A.) Nephew B.) Uncle

C.) Either father or uncle D.) Father

52. Pointing to a photograph, Vipul said, "She is the daughter of my grandfather's only son." How is Vipul related to the girl in the photograph ?

A.) Father B.) Brother

C.) Uncle D.) Cousin

53. Looking at a portrait of a man, Harsh said, "His mother is the wife of my father's son. Brothers and sisters I have none." At whose portrait was Harsh looking ?

A.) His son B.) His nephew

C.) His uncle D.) His cousin

54. Pointing to a girl in the photograph, Amar said, "Her mother`s brother is the only son of my mother's father." How is the girl`s mother related to Amar ?

A.) Mother B.) Sister

C.) Aunt D.) Grandmother

55. A girl introduced a boy as the son of the daughter of the father of her uncle. The boy is girl`s

A.) Brother B.) Son

C.) Uncle D.) Son-in-law

56. If X is the brother of the son of Y`s son, how is X related to Y ?

A.) Son B.) Brother

C.) Grandson D.) Cousin

57. Pointing to a women in a photograph a man says “She is the daughter-in-law of the mother of my father’s only grand son”. How is he woman related to the man?

A.) Wife B.) mother

C.) daughter-in-law D.) daughter

58. Pointing to a man in a photograph a woman said, “His brother’s father is the woman related to the man in the photograph?

A.) Mother B.) Aunt

C.) Sister D.) Daughter

59. Pointing to a photograph, a woman says, "This man`s son`s sister is my mother-in-law." How is the woman`s husband related to the man in the photograph ?

A.) Grandson B.) Son

C.) Nephew D.) Son-in-law

60. When Anuj saw Manish, he recalled, "He is the son of the father of my daughter." Who is Manish ?

A.) Brother-in-law B.) Brother

C.) Cousin D.) Uncle

Test: Sitting Arrangements

Directions (Q. 61- 63) Study the following information carefully to answer these questions.

A. There are five friends.

B. They are standing in a row facing south.

C. Jayesh is to the immediate right to Alok.

D. Pramod is between Bhagat and Subodh .

E. Subodh is between Jayesh and Pramod.

61. Who is at the extreme left end ?

a) Jayesh b)Subodh c)Alok d)Bhagat

62. Who is in the Middle ?

a) Bhagat b) Subodh c)Jayesh d)Pramod

63. To find the answers to the above questions, which of the given statements can be dispensed with ?

a) None b) A only c)B only d) C only

Directions (Q. 64- 68) Study the following information carefully to answer these questions.

A, B, C, D, E, F and G are sitting on a wall and all of them are facing east.

II. C is on the immediate right of D.

III. B is at an extreme end and has E as his neighbour.

IV. G is between E and F.

V. D is sitting third from the south end.

64. Who is sitting to the Right of E ?

a) A b) C c) D d)G

65. Which of the following pairs of people are sitting at the extreme ends ?

a) AE b) AB c) CB d) FB

66. Name the person who should change places with C such that he gets the third place from the north end.

a) G b)F c)D d)A

67. Immediately between which of the following pairs of people D is sitting ?

a) AC b) AF c)CF d)CE

68. Which of the conditions given above are not required to find out the place in which A is sitting ?

a) I b)II c)IV d)All required

Directions (Q. 69- 70) Study the following information carefully to answer these questions.

A. Eleven students, A, B, C, D, E, F, G, H, I, J and K, are sitting in the first row of the class facing the teacher.

B. D who is to the immediate left of F is second to the right of C.

C. A is the second to the right of E, who is at one of the ends.

D. J is the immediate neighbour of A and B and third to the left of G.

E. H is to the immediate left of D and third to the right of I.

69. Who is sitting in the middle of the row ?

a) B b)C c)G d)I

70. Which of the following group is sitting to the right of G ?

a) CHDE b)CHDF c)IBJA d)ICHDF

Test : Age

71. Father is aged three times more than his son Ronit. After 8 years, he would be two and a half times of Ronit's age. After further 8 years, how many times would he be of Ronit's age?

A. 2 times **B.** $2\frac{1}{2}$ times

C. $2\frac{3}{4}$ times **D.** 3 times

72. The sum of ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child?

A. 4 years **B.** 8 years

C. 10 years **D.** None of these

73. A father said to his son, "I was as old as you are at the present at the time of your birth". If the father's age is 38 years now, the son's age five years back was:

A. 14 years **B.** 19 years

C. 33 years **D.** 38 years

74. A is two years older than B who is twice as old as C. If the total of the ages of A, B and C be 27, the how old is B?

A. 7 **B.** 8

C. 9 **D.** 10

75. Present ages of Sameer and Anand are in the ratio of 5 : 4 respectively. Three years hence, the ratio of their ages will become 11 : 9 respectively. What is Anand's present age in years?

A. 24 **B.** 27

C. 40 **D.** None of the above

76. A man is 24 years older than his son. In two years, his age will be twice the age of his son. The present age of his son is:

A. 14 years **B.** 18 years

C. 20 years **D.** 22 Ears

77. Six years ago, the ratio of the ages of Kunal and Sagar was 6 : 5. Four years hence, the ratio of their ages will be 11 : 10. What is Sagar's age at present?

A. 16 years **B.** 18 years

C. 20 years **D.** Cannot be determined

78. The sum of the present ages of a father and his son is 60 years. Six years ago, father's age was five times the age of the son. After 6 years, son's age will be:

A. 12 years **B.** 14 years

C. 18 years **D.** 20 years

79. At present, the ratio between the ages of Arun and Deepak is 4 : 3. After 6 years, Arun's age will be 26 years. What is the age of Deepak at present ?

A. 12 years **B.** 15 years

C. 19 and half **D.** 21 years

80. Sachin is younger than Rahul by 7 years. If their ages are in the respective ratio of 7 : 9, how old is Sachin?

A. 16 years **B.** 18 years

C. 28 years **D.** 24.5 years

Test: Simplification

81. If $a - b = 3$ and $a^2 + b^2 = 29$, find the value of ab.
A.10 B.12
C.15 D.18

82. The price of 2 sarees and 4 shirts is Rs. 1600. With the same money one can buy 1 saree and 6 shirts. If one wants to buy 12 shirts, how much shall he have to pay ?
A.Rs. 1200 B.Rs. 2400
C.Rs. 4800 D.Cannot be determined

83. A sum of Rs. 1360 has been divided among A, B and C such that A gets $\frac{2}{3}$ of what B gets and B gets $\frac{1}{4}$ of what C gets. B's share is:
A.Rs. 120 B.Rs. 160
C.Rs. 240 D.Rs. 300

84. A fires 5 shots to B's 3 but A kills only once in 3 shots while B kills once in 2 shots. When B has

missed 27 times, A has killed:

A.30 birds
B.60 birds
C.72 birds
D.90 birds

85. A man has some hens and cows. If the number of heads be 48 and the number of feet equals 140, then the number of hens will be:

A.22
B.23
C.24
D.26

86. What decimal of an hour is a second ?

A..0025
B..0256
C..00027
D..000126

87. If 2994 ÷ 14.5 = 172, then 29.94 ÷ 1.45 = ?

A.0.172
B.1.72
C.17.2
D.172

88. The expression (11.98 x 11.98 + 11.98 x *x* + 0.02 x 0.02) will be a perfect square for *x* equal to:

A.0.02
B.0.2
C.0.04
D.0.4

89. 3889 + 12.952 - ? = 3854.002

A.47.095
B.47.752
C.47.932
D.47.95

90. The price of commodity *X* increases by 40 paise every year, while the price of commodity *Y* increases by 15 paise every year. If in 2001, the price of commodity *X* was Rs. 4.20 and that of *Y* was Rs. 6.30, in which year commodity *X* will cost 40 paise more than the commodity *Y* ?

A.2010
B.2011
C.2012
D.2013

Test : Number System

91. Which one of the following is not a prime number?
A. 31 B. 61
C. 71 D. 91

92. $(112 \times 5^4) = ?$
A. 67000 B. 70000
C. 76500 D. 77200

93. It is being given that $(2^{32} + 1)$ is completely divisible by a whole number. Which of the following numbers is completely divisible by this number?
A. $(2^{16} + 1)$ B. $(2^{16} - 1)$
C. (7×2^{23}) D. $(2^{96} + 1)$

94. What least number must be added to 1056, so that the sum is completely divisible by 23 ?
A. 2 B. 3
C. 5 D. 21

95. 1397 x 1397 = ?
A. 1951609 B. 1981709
C. 18362619 D. 2031719

96. How many of the following numbers are divisible by 132 ?
264, 396, 462, 792, 968, 2178, 5184, 6336
A. 4 B. 5
C. 6 D. 7

97. (935421 x 625) = ?
A. 575648125 B. 584638125
C. 584649125 D. 585628125

98. The largest 4 digit number exactly divisible by 88 is:
A. 9944 B. 9768
C. 9988 D. 8888

99. Which of the following is a prime number ?
A. 33 B. 81
C. 93 D. 97

100. What is the unit digit in $\{(6374)^{1793} \times (625)^{317} \times (341^{491})\}$?
A. 0 B. 2
C. 3 D. 5

Aptitude Test Questions & Answers

Question 1: The largest copper producing country in the World is

1. Chile
2. Russia
3. South Africa
4. China

Answer: 1.

Question 2: If the radius of a circle is diminished by 10%, then its area is diminished by:

1. 10%
2. 19%
3.20%
4. 36%

Answer: 2.

Question 3: A boat travels 20 kms upstream in 6 hrs and 18 kms downstream in 4 hrs. Find the speed of the boat in still water and the speed of the water current?

1. 1/2 kmph
2.7/12 kmph
3.5 kmph
4.none of these

Answer: 2.

Question 4: At what time after 4.00 p.m. is the minutes hand of a clock exactly aligned with the hour hand?

1. 4:21:49.5
2. 4:27:49.5
3.3:21:49.5
4. 4:21:44.5

Answer: 1.

Question 5: A shop keeper sold a T.V set for Rs.17,940 with a discount of 8% and earned a profit of 19.6%.What would have been the percentage of profit earned if no discount was offered?

1. 24.8%
2. 25%
3. 26.4%
4. Cannot be determined
5. None of these

Answer: 5.

Question 6: If (2x-y)=4 then (6x-3y)=?

1. 15
2. 12

3.18
4. 10

Answer: 2.

Question 7: A clock is set right at 8 a.m. The clock gains 10 minutes in 24 hours. What will be the true time when the clock indicates 1 p.m. on the following day?

1. 48 min. past 12
2.38 min. past 12
3.28 min. past 12
4. 25 min. past 12

Answer: 1.

Question 8: What is the missing number in this series? 8 2 14 6 11 ? 14 6 18 12

1. 16
2. 9
3.15
4. 6

Answer: 2.

Question 9: Dinesh travelled 1200 km by air which formed 2/5 of his trip. One third of the whole trip, he travelled by car and the rest of the journey he performed by train. What was the distance travelled by train?

1. 600Km
2.700Km
3.800Km
4. 900Km

Answer: 3.

Question 10: A train which travels at a uniform speed due to some mechanical fault after traveling for an hour goes at 3/5th of the original speed and reaches the destination 2 hrslate.If the fault had occurred after traveling another 50 miles the train would have reached 40 min earlier. What is distance between the two stations.

1. 300
2. 310
3.320
4. 305

Answer: 1.

Question 11: The average between a two digit number and the number obtained by interchanging the digits is 9. What is the difference between the two digits of the number?

1. 8
2. 2
3.5
4. Cannot be determined

Answer: 4.

Question 12: Pipe A can fill in 20 minutes and Pipe B in 30 mins and Pipe C can empty the same in 40 mins.If all of them work together, find the time taken to fill the tank

1. 17 1/7 mins
2.20 mins
3.8 mins
4.none of these

Answer: 1.

Question 13: A person has 4 coins each of different denomination. What is the number of different sums of money the person can form (using one or more coins at a time)?

1. 16
2. 15
3.12
4. 11

Answer: 2.

Question 14: The simple interest on a certain sum of money for 3 years is 225 and the compound interest on the same sum at the same rate for 2 years is 153 then the principal invested is

1. 1500
2. 2250
3.3000
4. 1875

Answer: 4.

Question 15: A cow is tethered in the middle of a field with a 14 feet long rope. If the cow grazes 100 sq. ft. per day, then approximately what time will be taken by the cow to graze the whole field ?

1. 2 days
2. 6 days
3. 18 days
4. 24 days
5. None of these

Answer: 2.

Question 16: 2 hours after a freight train leaves Delhi a passenger train leaves the same station travelling in the same direction at an average speed of 16 km/hr. After travelling 4 hrs the passenger train overtakes the freight train. The average speed of the freight train was?

1. 40
2. 30
3.80
4. 60

Answer: 1.

Question 17: The two colors seen at the extreme ends of the pH chart are:

1. Red and Blue
2. Red and Green

3.Green and Blue
4. Orange and Green

Answer: 1.

Question 18: 8 15 24 35 48 63

1. 70
2. 80
3.75
4. 88

Answer: 2.

Question 19: One of Mr. Horton, his wife, their son, and Mr. Horton's mother is a doctor and another is a lawyer.
a) If the doctor is younger than the lawyer, then the doctor and the lawyer are not blood relatives.
b) If the doctor is a woman, then the doctor and the lawyer are blood relatives.
c) If the lawyer is a man, then the doctor is a man. Whose occupation you know?

1. Mr. Horton: he is the doctor
2. Mr. Horton's son: she is the lawyer
3. Mr. Horton: he is the doctor
4. Mr. Horton's mother: she is the doctor

Answer: 1.

Question 20: In the given figure, PA and PB are tangents to the circle at A and B respectively and the chord BC is parallel to tangent PA. If AC = 6 cm, and length of the tangent AP is 9 cm, then what is the length of the chord BC?

1. 4 cm
2.8 cm
3.6 cm
4. 5 cm

Answer: 1.

Question 21: Union Information and Broadcasting ministry recently gave an indication to change which of the following laws on a larger scale, as the existing provisions of the Act are inadequate to cater to the phenomenal growth of the print media in view of the liberalization of the government policies?

1. Press & Registration of Books Act, (PRB Act) 1867
2. The Delivery Of Books 'And Newspapers' (Public Libraries) Act, 1954
3. Indian Press (Emergency Powers) Act 1931
4. none

Answer: 1.

Question 22: 2 numbers differ by 5.If their product is 336,then the sum of the 2 numbers is:

1. 21
2. 51
3.28
4. 37

Answer: 4.

Question 23: Which number is the odd one out? 9678 4572 5261 3527 7768

1. 7768
2. 3527
3.4572
4.9678
5. 5261

Answer: 2.

Question 24: Which one among the following has the largest shipyard in India

1. Kolkata
2. Kochi
3. Mumbai
4. Visakhapatnam

Answer: 2.

Question 25: If x=y=2z and xyz=256 then what is the value of x?

1. 8
2. 3
3.5
4. 6

Answer: 1.

Question 26: A radio when sold at a certain price gives a gain of 20%. What will be the gain percent, if sold for thrice the price?

1. 280
2. 270
3.290
4. 260

Answer: 4.

Question 27: x% of y is y% of ?

1. x/y
2.2y
3.x
4. can't be determined

Answer: 3.

Question 28: If the value of x lies between 0 & 1 which of the following is the largest?

1. x
2.x2
3. -x
4. 1/x

Answer: 4.

Question 29: The tutor of Alexander the great was

1. Darius
2. Cyrus
3. Socrates
4. Aristotle

Answer: 4.

Question 30: Thirty men take 20 days to complete a job working 9 hours a day. How many hour a day should 40 men work to complete the job?

1. 8 hrs
2. 71/2 hrs
3.7 hrs
4. 9 hrs

Answer: 2.

Question 31: Goitre caused by the deficiency of .....

1. Vitamin D
2. Iron
3.VItamin A
4. Iodine

Answer: 4.

Question 32: Who invented Napier's Bones

1. John Napier
2. William Oughtred
3. Charles Babbage
4. Napier Bone

Answer: 1.

Question 33: The mass number of a nucleus is
The mass number of a nucleus is

1. Always less than its atomic number
2. Always more than its atomic number
3. Sometimes more than and sometimes equal to its atomic number
4. None of the above

Answer: 3.

Question 34: A and B can do a piece of work in 45 days and 40 days respectively. They began to do the work together but A leaves after some days and then B completed the remaining work n 23 days. The number of days after which A left the work was

1. 9
2. 11
3.12

4.15
5. 16

Answer: 1.

Question 35: Sam and Mala have a conversation. Sam says I am certainly not over 40 Mala Says I am 38 and you are at least 5 years older than me · Now Sam says you are at least 39 all the statements by the two are false. How old are they really?

1. Mala = 38 yrs, Sam =31 yrs.
2. Mala = 38 yrs, Sam = 41 yrs
3. Mala = 31 yrs, Sam = 41 yrs.
4. Mala = 45yrs, Sam = 41 yrs

Answer: 2.

Question 36: What is the code name for Windows Vista?

1. Longhorn
2. Longhund
3.Stackspray
4. Pearl

Answer: 1.

Question 37: On sports day, if 30 children were made to stand in a column, 16 columns could be formed. If 24 children were made to stand in a column, how many columns could be formed?

1. 20
2. 30
3.40
4. 50

Answer: 1.

Question 38: The probability that a man will be alive for 25 years is 3/5 and the probability that his wife will be alive for 25 years is 2/3. Find the probability that only the man will be alive for 25 years.

1. 2/5
2. 1/5
3.3/5
4. 4/5

Answer: 2.

Question 39: In a single throw of a dice, what is the probability of getting a number greater than 4?

1. 1/2
2.2/3
3.1/4
4. 1/3

Answer: 4.

Question 40: If every alternative letter starting from B of the English alphabet is written in small letter, rest all are written in capital letters, how the month "September" be written. (1) SeptEMbEr (2) SEpTeMBEr (3) SeptembeR (4) SepteMber (5) None of the above

1. (1)
2. (2)
3. (3)
4. (5)
5. (4)

Answer: 4.

Question 41: After allowing a discount of 11.11% ,a trader still makes a gain of 14.28 % .at how many precent above the cost price does he mark his goods?
After allowing a discount of 11.11% ,a trader still makes a gain of 14.28 % .at how many precent above the cost price does he mark his goods?

1. 28.56%
2. 35%
3.22.22%
4. None of these

Answer: 1.

Question 42: Pipe A can fill in 20 minutes and Pipe B in 30 mins and Pipe C can empty the same in 40 mins.If all of them work together, find the time taken to fill the tank

1. 17 1/7 mins
2.20 mins
3.none
4. 50 mins

Answer: 1.

Question 43: There are 3 triplet brothers. They look identical. The oldest is John, he always tells the truth. The second is Jack, he always tells a lie. The third is Joe, he either tells the truth or a lie. Jimmie Dean went to visit them one day. He was wondering who was who. So he asked each person a question. He asked the one who was sitting on the left: "Who is the guy sitting in the middle?". The answer was "He is John." He asked the one who was sitting in the middle: "What is your name?". The answer was "I am Joe." He asked the one who was sitting on the right: "What is the guy sitting in the middle?". The answer was "He is Jack." Jimmie Dean got really confused. Basically, he asked 3 same questions, but he got 3 different answers. which is not true?

1. left most is joe
2. middle is jack
3. right is john
4. middle is john

Answer: 4.

Question 44: A / B = C; C > D then

1. A is always greater than D
2. C is always greater than D
3. B is always less than D
4. none

Answer: 1.

Question 45: Consider the following statements: 1. The Administrative Reforms Commission (ARC) had recommended that the Department of Personnel of a State should be put under the charge of the Chief Secretary of the State. 2. Chief Secretary of a State is not involved in any manner in the promotion of State Civil officers to the All-India Services. Which of the statements given above is/are correct?

1. Only 1
2. Only 2
3.Both 1 and 2
4. Neither 1 nor 2

Answer: 1.

Question 46: The population of a town was 1,60,000 three years ago. If it increased by 3%, 2.5% and 5% respectively in the last three years, then the present population of the town is :

1. 1,77,000
2. 1,77,366
3. 1,77,461
4. 1,77,596

Answer: 2.

Question 47: What is the population of India ?

1. 98 crores
2. More than 2 billion
3.More than 1 billion
4.Less than 96 crores
5. 96 crores

Answer: 3.

Question 48: Some green are blue. No blue are white.

1. Some green are white
2. No white are green
3. No green are white
4. None of the above

Answer: 1.

Question 49: What is the missing number in this series? 8 2 14 6 11 ? 14 6 18 12

1. 8
2. 6
3.9
4. 11

Answer: 3.

Question 50: Average age of students of an adult school is 40 years. 120 new students whose average age is 32 years joined the school. As a result the average age is decreased by 4 years. Find the number of students of the school after joining of the new students:

1. 1200
2. 120
3.360
4. 240

Answer: 4.

Question 51: On sports day,if 30 children were made to stand in a column,16 columns could be formed. If 24 children were made to stand in a column , how many columns could be formed?

1. 48
2. 20
3.30
4.16
5. 40

Answer: 2.

Question 52: Which of the following numbers is divisible by 3? (i) 541326 (ii) 5967013

1. (ii) only
2. (i) only
3. (i) and (ii) both
4. (i) and (ii) none

Answer: 2.

Question 53: A square is divided into 9 identical smaller squares. Six identical balls are to be placed in these smaller squares such that each of the three rows gets at least one ball (one ball in one square only). In how many different ways can this be done?

1. 81
2. 91
3.41
4. 51

Answer: 1.

Question 54: A man owns 2/3 of the market research beauro business and sells 3/4 of his shares for Rs.75000. What is the value of Business

1. 150000
2. 13000
3.240000
4. 34000

Answer: 1.

Question 55: 1,2,6,24,?

1. 111
2. 151
3.120
4. 125

Answer: 3.

Question 56: The cost of 16 packets of salt,each weighing 900 grams is Rs.28.What will be the cost of 27 packets ,if each packet weighs 1Kg?

1. Rs.52.50
2. Rs.56
3.Rs.58.50
4. Rs.64.75

Answer: 1.

Question 57: Ronald and Michelle have two children. The probability that the first child is a girl, is 50%. The probability that the second child is a girl, is also 50%. Ronald and Michelle tell you that they have a daughter. What is the probability that their other child is also a girl?

1. 1/2
2.1/3
3.1/4
4. 1/5

Answer: 2.

Question 58: Find the value of (21/4-1)(23/4 +21/2+21/4+1)

1. 1
2. 2
3. 3

Answer: 1.

Question 59: The product of two fractions is 14/15 and their quotient is 35/24. the greater fraction is

1. 4/5
2. 7/6
3.7/5
4. 7/4

Answer: 1.

Question 60: 500 men are arranged in an array of 10 rows and 50 columns according to their heights. Tallest among each row of all are asked to fall out. And the shortest among them is A. Similarly after resuming that to their original podsitions that the shortest among each column are asked to fall out. And the tallest among them is B . Now who is taller among A and B ?

1. A
2. B
3. Both are of same height

Answer: 1.

Question 61: Choose the pair of numbers which comes next 75 65 85 55 45 85 35

1. 25 15
2. 25 85
3.35 25
4.35 85
5. 25 75

Answer: 2.

Question 62: A three digit number consists of 9,5 and one more number. When these digits are reversed and then subtracted from the original number the answer yielded will be consisting of the same digits arranged yet in a different order. What is the other digit?

1. 1
2. 2
3.3
4. 4

Answer: 4.

Question 63: ATP stands for:

1. Adenine triphosphate
2. Adenosine triphosphate
3.Adenosine Diphosphate
4. Adenosine tetraphosphate

Answer: 2.

Question 64: VeselinTapolev who became the World Champion recently, is associated with which of the following games/sports ?

1. Chess
2. Golf
3. Snooker
4. Badminton
5. None of these

Answer: 1.

Question 65: A piece of cloth cost Rs 35. if the length of the piece would have been 4m longer and each meter cost Re 1 less , the cost would have remained unchanged. how long is the piece?

1. 10
2. 11
3. 12

Answer: 1.

Question 66: In a journey of 15 miles two third distance was travelled with 40 mph and remaining with 60 mph.Howmuvh time the journey takes

1. 40 min
2.30 min
3.120 min
4. 20 min

Answer: 4.

Question 67: Solid cube of 6 * 6 * 6. This cube is cut into to 216 small cubes. (1 * 1 * 1).the big cube is painted in all its faces. Then how many of cubes are painted at least 2 sides.

1. 56
2. 45
3.23
4. 28

Answer: 1.

Question 68: Find the average of first 40 natural numbers.

1. 40
2. 35
3. 30.6
4. 20.5
5. None of these

Answer: 4.

Question 69: 1, 5, 14, 30, ?, 91

1. 45
2. 55
3.60
4.70
5. None of these

Answer: 2.

Question 70: There is a shortage of tubelights, bulbs and fans in a village - Gurgaon. It is found that
a) All houses do not have either tubelight or bulb or fan.
b) Exactly 19% of houses do not have just one of these.
c) Atleast 67% of houses do not have tubelights.
d) Atleast 83% of houses do not have bulbs.
e) Atleast 73% of houses do not have fans.

1. 42 %
2. 46 %
3.50 %
4.54 %
5. 57 %

Answer: 1.

Question 71: If 9 engines consume 24 metric tonnes of coal, when each is working 8 hours a day; how much coal will be required for 8 engines, each running 13 hours a day, it being given that 3 engines of the former type consume as much as 4 engines of latter type.

1. 22 metric tonnes.
2. 27 metric tonnes.
3. 26 metric tonnes.
4. 25 metric tonnes.

Answer: 3.

Question 72: To 15 lts of water containing 20% alcohol, we add 5 lts of pure water. What is % alcohol.

1. 20%
2. 34%

3.15%
4. 14%

Answer: 3.

Question 73: In page preview mode:

1. You can see all pages of your document
2. You can only see the page you are currently working
3. Satyam BPO Services
4. You can only see pages that do not contain graphics

Answer: 4.

Question 74: A house wife saved Rs. 2.50 in buying an item on sale .If she spent Rs.25 for the item ,approximately how much percent she saved in the transaction ?

1. 8%
2. 9%
3.10%
4. 11%

Answer: 2.

Question 75: I have trouble _____.

1. to remember my password
2. to remembering my password
3. remember my password
4. remembering my password

Answer: 4.

Question 76: Superheroes Liza and Tamar leave the same camp and run in opposite directions. Liza runs 1 mile per second (mps) and Tamar runs 2 mps. How far apart are they in miles after 1 hour?

1. 10800 mile
2.19008 mile
3.12300 mile
4. 14000 mile

Answer: 1.

Question 77: A = 5, B = 0, C = 2, D = 10, E = 2. What is then AB + EE - (ED)powerB + (AC)powerE = ?

1. 113
2. 103
3.93
4. 111

Answer: 2.

Question 78: A man can row upstream at 8 kmph and downstream at 13 kmph.The speed of the stream is?

1. 2.5 kmph
2.4.2 kmph
3.5 kmph
4. 10.5 kmph

Answer: 1.

Question 79: Find what is the next letter. Please try to find. O,T,T,F,F,S,S,E,N,_ What is that letter?

1. B
2. S
3.Q
4.T
5. O

Answer: 4.

Question 80: There are 3 societies A, B, C. A lent cars to B and C as many as they had Already. After some time B gave as many tractors to A and C as many as they have. After sometime c did the same thing. At the end of this transaction each one of them had 24. Find the cars each originally had.

1. A had 21 cars, B had 39 cars & C had 12 cars
2. A had 39 cars, B had 39 cars & C had 12 cars
3. A had 39 cars, B had 21 cars & C had 19 cars
4. A had 39 cars, B had 21 cars & C had 12 cars

Answer: 4.

Question 81: A papaya tree was planted 2 years ago. It increases at the rate of 20% every year. If at present, the height of the tree is 540 cm, what was it when the tree was planted?

1. 432 cm
2.324 cm
3.375 cm
4. 400 cm

Answer: 3.

Question 82: A boy has Rs 2. He wins or loses Re 1 at a time If he wins he gets Re 1 and if he loses the game he loses Re 1. He can loose only 5 times. He is out of the game if he earns Rs 5. Find the number of ways in which this is possible?

1. 14
2. 23
3.16
4.12
5. 10

Answer: 3.

Question 83: Five racing drivers, Alan, Bob, Chris, Don, and Eugene, enter into a contest that consists of 6 races. The results of all six races are listed below: Bob always finishes ahead of Chris. Alan finishes either first or last. Eugene finishes either first or last. There are no ties in any race. Every driver finishes each race. In each race, two points are awarded for a fifth place finish, four points for fourth, six points for third, eight points for second, and ten points for first. If Frank enters the third race and finishes behind Chris and Don, which of the following must be true of that race?

1. Eugene finishes first.
2. Alan finishes sixth.
3. Don finishes second.
4. Frank finishes fifth.
5. Chris finishes third.

Answer: 4.

Question 84: A is twice as good a workman as B and together they finish a piece of work in 18 days.In how many days will A alone finish the work?

1. 27
2. 26
3.25
4. 24

Answer: 1.

Question 85: Daal is now being sold at Rs. 20 a kg. During last month its rate was Rs. 16 per kg. By how much percent should a family reduce its consumption so as to keep the expenditure fixed?

1. 20 %
2. 40 %
3.3%
4. 2%

Answer: 1.

Question 86: The sum of 5 successive odd numbers is 1075. What is the largest of these numbers?

1. 215
2. 223
3.219
4. 217

Answer: 3.

Question 87: A man sells two buffaloes for Rs. 7,820 each. On one he gains 15% and on the other, he loses 15%. His total gain or loss in the transaction is

1. 2.5% gain
2. 2.25% loss
3.2% loss
4.5% loss
5. None of these

Answer: 2.

Question 88: One ship goes along the stream direction 28 km and in opposite direction 13 km in 5 hrs for each direction.What is the velocity of stream?

1. 1.5 kmph
2.2.5 kmph
3.1.8 kmph
4. 2 kmph

Answer: 1.

Question 89: Which one of the words given below is different from others?

1. Orange
2. Grape
3.Apricot
4.Raspberry
5. Mango

Answer: 3.

Question 90: Complete the series: 5, 20, 24, 6, 2, 8, ?

1. 12
2. 32
3.34
4. 36

Answer: 1.

Question 91: A can have a piece of work done in 8 days, B can work three times faster than the A, C can work five times faster than A. How many days will they take to do the work together

1. 3 days
2. 8/9 days
3. 4 days
4. None of the above

Answer: 2.

Question 92: 7 Pink, 5 Black, 11 Yellow balls are there. Minimum no. atleast to get one black and yellow ball

1. 17
2. 13
3.15
4. 19

Answer: 1.

Question 93: (1/10)18 - (1/10)20 = ?

1. 99/1020
2. 99/10
3. 0.9
4. none of these

Answer: 1.

Question 94: Three friends divided some bullets equally. After all of them shot 4 bullets the total number of bullets remaining is equal to the bullets each had after division. Find the original number divided?

1. 18
2. 20
3.54
4. 8

Answer: 1.

Question 95: A sum of Rs. 427 is to be divided among A, B and C in such a way that 3 times A's share, 4 times B's share and 7 times C's share are all equal. The share of C is

1. Rs.84
2. Rs.76
3.Rs.98
4. RS.34

Answer: 1.

Question 96: There are 20 poles with a constant distance between each pole. A car takes 24 second to reach the 12th pole.How much will it take to reach the last pole.

1. 41.45 seconds
2. 40.45 seconds
3. 42.45 seconds
4. 41.00 seconds

Answer: 1.

Question 97: An emergency vehicle travels 10 miles at a speed of 50 miles per hour. How fast must the vehicle travel on the return trip if the round-trip travel time is to be 20 minutes?

1. 72 miles per hour
2.75 miles per hour
3.65 miles per hour
4. 78 miles per hour

Answer: 2.

Question 98: 12% of 580 + ? = 94

1. 24.4
2. 34.4
3. 54.4
4. 65.4

Answer: 1.

Question 99: There is a certain relation between two given words on one side of : : and one word is given on another side of : : while another word is to be found from the given alternatives, having the same relation with this word as the given pair has. Select the best alternative. Horse : Jockey : : Car : ?

1. Mechanic
2. Chauffeur
3. Steering
4. Brake

Answer: 2.

Question 100: Which of the following numbers should be added to 11158 to make it exactly divisible by 77?

1. 9
2. 8
3.7
4. 5

Answer: 3.

1. The label on a 600 ml shampoo bottle states that there is enough shampoo for 80 washes. Approximately how much shampoo has been allowed for each wash?

A. 7ml B. 10ml C.15ml D. None of these

2. The terms: “mean”, “median” and “mode” refers to:

A. The Average B. Numbers C. Measures of Central Tendency D. Standard Deviation

3. What is 35% of a number if 12 is 15% of a number?

A.5 B 12 C 28 D 33

4. If selling price is doubled, the profit triples. Find the profit percent?

A. 200 B. 100 C.50 D.75

5. What Number is in the Tenths place in the following: 7.2431?

A. 7 B. 2 C. 4 D. 3

6.If Sam can do a job in 4 days that Lisa can do in 6 days and Tom can do in 2 days, how long would the job take if Sam, Lisa, and Tom worked together to complete it?

A. 0.8 days B. 1.09 days C. 1.23 days D.1.65 days

7. A and B invest in a business in the ratio 3:2. If 5% of the total profit goes to charity and A's share is Rs. 855, the total profit is:

A. Rs. 1425 B. Rs. 1500 C. 1537.50 D. Rs. 1576

8. A man has Rs. 480 in the denominations of one-rupee notes, five-rupee notes and ten-rupee notes. The number of notes of each denomination is equal. What is the total number of notes that he has ?

A.45 B.60 C.75 D.90

9. A man has some hens and cows. If the number of heads be 48 and the number of feet equals 140, then the number of hens will be?

A.22 B.23 C.24 D.26

10. Hitler party which came into power in 1933 is known as

A. Labour Party B. Nazi Party C. Ku-Klux Klan D. Democratic Party

11. Among the following who was not the president of India?

A. Zakir Husain B. V.V Giri C.C. Rajagopalachari D.N. Sanjeeva Reddy

12. The famous “Chandra Tal” Lake falls in which state?

A. J & K B.Himachal Pradesh C. Punjab D. Uttra-khand

13. In which of the following cities, Netaji Subhash Chandra Bose laid the foundation of 'Indian National Army'?

A. Singapore B. New Delhi C.Tokyo D.Taiwan

14. Who is the current chief Minister of Madhya Pradesh?

A. VasundharaRajeScindia B.Haridevjoshi C. Ashok Gehlot D. None of these

15. Who is the Chairman of Tata-Group?

A. Ratan Tata B. Cyrus Mistry C. Warren Buffet D. Luxmi Mittal

16.When did Man Discovered Iron?

A.100 BC B.1500BC C.2000BC D.1900BC

17.In 2012, which movie got Oscar award for the Nomination in “BEST ANIMATED MOVIE” ?

A. Brave B. Ice Age: Continental Drift C. Rango D. The Lorax

18. Chairman of planning commission ?

A. MonteksinghAhluwalia B. Dr. Manmohansingh C. Pranav mukharjee D. A K Antony

19. What is the Currency of Brazil?

A.Danish renminbi B. Brazillian Real C. Euro D.Brazillian Dollar

20. Highest Run scorer in ICC T-20 world cup 2012?

A. Shane Watson B. MahelaJayawardene C. Chris Gayle D. Marlon Samuels

21. What is the Capital of Manipur?

A. Imfal B. Gangtok C. Kohima D. Aizal

22. The“Riwalsar lake” falls in?

A. Uttra-khand B. Hydrabad C. Delhi D. Himachal Pradesh

23.Rome was found in the Year?

A.750BC B.760BC C.753BC D.765BC

24.How _____ does it take to get to the railway station from your house?

A.Long B. Often C.Much D.Far

25. Which of the following is **Anonym** of **Perversely**?

A. Stubbornly B. Conveniently C.Reasonably D. Formally

26. I play tennis twice _____ week.

A. an B.a C. For a D. In the

27. Helen and I ____ looking when we crossed the road.

A.Were not B.Was Not C.Did Not

28. Which sentence has the same meaning?
I got into the bath, and then the phone rang.

A. I was having a bath when the phone was ringing. B. I had a bath because the phone was ringing.C. I was having a bath when the phone rang D. None of these.

29. Which of the following has the **SAME** meaning as **"Beget "?**

A. Lead B Produce C. Happens D.Effect

30. What is MLS?

A. Multiple label Switching B. Multiple Layer Switching C. Multiple local span D. Multiple Local Switching

31. What is AD value of directly connected route?

A. 120 B.180 C. 0 D.None of these

33 On which layer ICMP protocol works?

A. Layer7 B. Layer5 C. Layer4 D.Layer3

34. Which of these is not the feature of IPv6?

A. Stateless Auto-configuration B. Re-Numbering C.ARP D. Aggregation

35. Back-bone fast is enabled to provide the fast convergence in case of?

A. Backward failure B. In-direct failure C. Direct failure E None of these

36. What is TOS in IP(Explain)?

Ans:

37. Which one of them is not the IP flag?

A. NS B. MF C. DF D. Reserved

38. OSPF LSA-5 is Know as?

A. Router LSA B. Network LSA C. NSSA D. External-LSA

39. Spanning-Tree Protocol is used for what?

A. To avoid Neighbor Loops B. To avoid Domain Loop C. To avoid Layer-2 Loops
D. To Network Loops

40. RIP(Routing Information Protocol) works on which Layer of OSI Model?

A. Network Layer B. Application Layer C. Transport Layer D. Data-Link Layer

41.Vlan is used for what purpose?

A. To segregate the Broadcast domain B.To segregate the Multicast domainC.To segregate the Unicast domain D. To segregate the Anycast domain

42. What is the Size of IPv4 Header?

A. 50Bits B. 20Byte C. 128Bit D. 32Bit

43.BGP is?

A. Link-State Protocol B. Path-Vector Protocol C. Advance Distance vector Protocol

44. 127.0.0.1 address is reserved for what Purpose?

A. Default route B. Loopback testing C. Static route D. None of these.

45. BPDU-Filter enabled Port will come in to which state after receiving the BPDU?

A. Shutdown B. Root-Inconsistent State C. Loop inconsistent State
D. It cant receive BPDU

46. UDLD stands for what?

A. Uni-directional link discloser B. Uni-directional link detection C. Universal detection line direction D None of these

47. BGP MED is used for?

A. Incoming Traffic to AS B. Outgoing Traffic of AS C. Local Traffic .

48. Which Data-link Layer Protocol Provide Authentication?

A. Ethernet B. ATM C. Frame-Relay D.PPP

49. BGP Weight for locally connected networks is?

A. 40000 B. 32768 C. 100 D. 1000

50. In MPLS, LIB is also known as?
A. Flow B. Local information Base C. Label information Base D. Label information baseline

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Aptitude Questions

1. The value of $\frac{0.1 \times 0.1 \times 0.1 + 0.02 \times 0.02 \times 0.02}{0.2 \times 0.2 \times 0.2 + 0.04 \times 0.04 \times 0.04}$ is:

A. 0.0125 B. 0.125

C. 0.25 D. 0.5

Answer: Option **B**

Explanation:

Given expression = $\frac{(0.1)^3 + (0.02)^3}{2^3[(0.1)^3 + (0.02)^3]} = \frac{1}{8} = 0.125$

2. $\frac{(243)^{n/5} \times 3^{2n+1}}{9^n \times 3^{n-1}} = ?$

A. 1 B. 2

C. 9 D. 3^n

Answer: Option **C**

Explanation:

Given Expression $= \frac{(243)^{(n/5)} \times 3^{2n+1}}{9^n \times 3^{n-1}}$

$= \frac{(3^5)^{(n/5)} \times 3^{2n+1}}{(3^2)^n \times 3^{n-1}}$

$= \frac{(3^{5 \times (n/5)} \times 3^{2n+1})}{(3^{2n} \times 3^{n-1})}$

$= \frac{3^n \times 3^{2n+1}}{3^{2n} \times 3^{n-1}}$

$= \frac{3^{(n+2n+1)}}{3^{(2n+n-1)}}$

$= \frac{3^{3n+1}}{3^{3n-1}}$

$= 3^{(3n+1-3n+1)} = 3^2 = 9.$

Direction (for Q.No. 3):

Find out the wrong number in the series.

3. 1, 3, 10, 21, 64, 129, 356, 777

A. 10 B. 21

C. 64 D. 129

E. 356

Answer: Option **E**

Explanation:

A x 2 + 1, B x 3 + 1, C x 2 + 1, D x 3 + 1 and so on.

So, 356 is wrong.

4. In how many ways can the letters of the word 'LEADER' be arranged?

A. 72 B. 144

C. 360 D. 720

E. None of these

Answer: Option **C**

Explanation:

The word 'LEADER' contains 6 letters, namely 1L, 2E, 1A, 1D and 1R.

$\therefore$ Required number of ways = $\frac{6!}{(1!)(2!)(1!)(1!)(1!)} = 360.$

5. Albert invested an amount of Rs. 8000 in a fixed deposit scheme for 2 years at compound interest rate 5 p.c.p.a. How much amount will Albert get on maturity of the fixed deposit?

A. Rs. 8600 B. Rs. 8620

C. Rs. 8820 D. None of these

Answer: Option **C**

Explanation:

Amount = Rs. $\left[8000 \times \left(1 + \frac{5}{2}\right)^2\right]$

100

$= \text{Rs.} \left(8000 \times \frac{21}{20} \times \frac{21}{20} \right)$

= Rs. 8820.

Direction (for Q.No. 6):

Find the odd man out.

6. 10, 25, 45, 54, 60, 75, 80

A. 10 B. 45

C. 54 D. 75

Answer: Option **C**

Explanation:

Each of the numbers except 54 is multiple of 5.

7. Two number are in the ratio 3 : 5. If 9 is subtracted from each, the new numbers are in the ratio 12 : 23. The smaller number is:

A. 27 B. 33

C. 49 D. 55

Answer: Option **B**

Explanation:

Let the numbers be $3x$ and $5x$.

Then, $\frac{3x - 9}{5x - 9} = \frac{12}{23}$

$\Rightarrow 23(3x - 9) = 12(5x - 9)$

$\Rightarrow 9x = 99$

$\Rightarrow x = 11.$

$\therefore$ The smaller number = (3 x 11) = 33.

8. In a mixture 60 litres, the ratio of milk and water 2 : 1. If the this ratio is to be 1 : 2, then the quanity of water to be further added is:

A. 20 litres B. 30 litres

C. 40 litres

D. 60 litres

Answer: Option **D**

Explanation:

Quantity of milk = $\left(60 \times \frac{2}{3}\right)$ litres = 40 litres.

Quantity of water in it = (60- 40) litres = 20 litres.

New ratio = 1 : 2

Let quantity of water to be added further be *x* litres.

Then, milk : water = $\left(\frac{40}{20 + x}\right)$.

Now, $\left(\frac{40}{20 + x}\right) = \frac{1}{2}$

$\Rightarrow 20 + x = 80$

$\Rightarrow x = 60.$

$\therefore$ Quantity of water to be added = 60 litres.

9. The fourth proportional to 5, 8, 15 is:

A. 18

B. 24

C. 19

D. 20

Answer: Option **B**

Explanation:

Let the fourth proportional to 5, 8, 15 be *x*.

Then, 5 : 8 : 15 : *x*

$\Rightarrow 5x = (8 \times 15)$

$x = \frac{(8 \times 15)}{5} = 24.$

10. A sum of Rs. 12,500 amounts to Rs. 15,500 in 4 years at the rate of simple interest. What is the rate of interest?

A. 3%

B. 4%

C. 5%

D. 6%

E. None of these

Answer: Option **D**

Explanation:

S.I. = Rs. (15500 - 12500) = Rs. 3000.

Rate = $\left(\frac{100 \times 3000}{12500 \times 4}\right)\%$ = 6%

11. A metallic sheet is of rectangular shape with dimensions 48 m x 36 m. From each of its corners, a square is cut off so as to make an open box. If the length of the square is 8 m, the volume of the box (in m^3) is:

A. 4830

B. 5120

C. 6420

D. 8960

Answer: Option **B**

Explanation:

Clearly, *l* = (48 - 16)m = 32 m,

b = (36 -16)m = 20 m,

h = 8 m.

$\therefore$ Volume of the box = (32 x 20 x 8) m^3 = 5120 m^3.

12. The reflex angle between the hands of a clock at 10.25 is:

A. 180º

B. $192\frac{1}{2}^o$

C. 195º

D. $197\frac{1}{2}^o$

Answer: Option **D**

Explanation:

Angle traced by hour hand in $\frac{125}{12}$ hrs = $\left(\frac{360}{12} \times \frac{125}{12}\right)^o = 312\frac{1}{2}^o$.

Angle traced by minute hand in 25 min = $\left(\frac{360}{60} \times 25\right)^o$ = 150º.

$\therefore$ Reflex angle = $360^o - \left(312\frac{1}{2} - 150\right)^o = 360^o - 162\frac{1^o}{2} = 197\frac{1}{2}$.

13. The banker's discount on a sum of money for $1\frac{1}{2}$ years is Rs. 558 and the true discount on the same sum for 2 years is Rs. 600. The rate percent is:

A. 10%
B. 13%
C. 12%
D. 15%

Answer: Option **C**

Explanation:

B.D. for $\frac{3}{2}$ years = Rs. 558.

B.D. for 2 years = Rs. $\left(558 \times \frac{2}{3} \times 2\right)$

= Rs. 744

T.D. for 2 years = Rs. 600.

$\therefore$ Sum = $\frac{\text{B.D. x T.D.}}{\text{B.D. - T.D}}$ = Rs. $\left(\frac{744 \times 600}{144}\right)$ = Rs. 3100.

Thus, Rs. 744 is S.I. on Rs. 3100 for 2 years.

$\therefore$ Rate = $\left(\frac{100 \times 744}{3100 \times 2}\right)\%$ = 12%

14. What was the day of the week on 28th May, 2006?

A. Thursday
B. Friday
C. Saturday
D. Sunday

Answer: Option **D**

Explanation:

28 May, 2006 = (2005 years + Period from 1.1.2006 to 28.5.2006)

Odd days in 1600 years = 0

Odd days in 400 years = 0

5 years = (4 ordinary years + 1 leap year) = (4 x 1 + 1 x 2) ≡ 6 odd days

Jan. Feb. March April May
(31 + 28 + 31 + 30 + 28) = 148 days

∴ 148 days = (21 weeks + 1 day) ≡ 1 odd day.

Total number of odd days = (0 + 0 + 6 + 1) = 7 ≡ 0 odd day.

Given day is Sunday.

15. A can do a work in 15 days and B in 20 days. If they work on it together for 4 days, then the fraction of the work that is left is :

A. $\frac{1}{4}$ B. $\frac{1}{10}$

C. $\frac{7}{15}$ D. $\frac{8}{15}$

Answer: Option **D**

Explanation:

A's 1 day's work = $\frac{1}{15}$;

B's 1 day's work = $\frac{1}{20}$;

(A + B)'s 1 day's work = $\left(\frac{1}{15} + \frac{1}{20}\right) = \frac{7}{60}$.

(A + B)'s 4 day's work = $\left(\frac{7}{60} \text{ x } 4\right) = \frac{7}{15}$.

Therefore, Remaining work = $\left(1 - \frac{7}{15}\right) = \frac{8}{15}$.

Direction (for Q.No. 16):

Each of the questions given below consists of a statement and / or a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statement(s) is / are sufficient to answer the given question. Read the both statements and

- Give answer (A) if the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.
- Give answer (B) if the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.
- Give answer (C) if the data either in Statement I or in Statement II alone are sufficient to answer the question.
- Give answer (D) if the data even in both Statements I and II together are not sufficient to answer the question.
- Give answer(E) if the data in both Statements I and II together are necessary to answer the

question.

16. How much time will the leak take to empty the full cistern?

I. The cistern is normally filled in 9 hours.

II. It takes one hour more than the usual time to fill the cistern because of la leak in the bottom.

A. I alone sufficient while II alone not sufficient to answer

B. II alone sufficient while I alone not sufficient to answer

C. Either I or II alone sufficient to answer

D. Both I and II are not sufficient to answer

E. Both I and II are necessary to answer

Answer: Option **E**

Explanation:

I. Time taken to fill the cistern without leak = 9 hours.

Part of cistern filled without leak in 1 hour = $\frac{1}{9}$

II. Time taken to fill the cistern in presence of leak = 10 hours.

Net filling in 1 hour = $\frac{1}{10}$

Work done by leak in 1 hour = $\left(\frac{1}{9} - \frac{1}{10}\right) = \frac{1}{90}$

$\therefore$ Leak will empty the full cistern in 90 hours.

Clearly, both I and II are necessary to answer the question.

$\therefore$ Correct answer is (E).

17. The value of $\log_2 16$ is:

A. $\frac{1}{8}$ B. 4

C. 8 D. 16

Answer: Option **B**

Explanation:

Let $\log_2 16 = n$.

Then, $2^n = 16 = 2^4 \quad \Rightarrow \quad n = 4$.

$\therefore \log_2 16 = 4$.

18. A 270 metres long train running at the speed of 120 kmph crosses another train running in opposite direction at the speed of 80 kmph in 9 seconds. What is the length of the other train?

A. 230 m
B. 240 m
C. 260 m
D. 320 m
E. None of these

Answer: Option **A**

Explanation:

Relative speed = (120 + 80) km/hr

$= \left(200 \times \frac{5}{18}\right)$ m/sec

$= \left(\frac{500}{9}\right)$ m/sec.

Let the length of the other train be x metres.

Then, $\frac{x + 270}{9} = \frac{500}{9}$

$\Rightarrow x + 270 = 500$

$\Rightarrow x = 230$.

19. Two trains of equal length are running on parallel lines in the same direction at 46 km/hr and 36 km/hr. The faster train passes the slower train in 36 seconds. The length of each train is:

A. 50 m
B. 72 m
C. 80 m
D. 82 m

Answer: Option **A**

Explanation:

Let the length of each train be x metres.

Then, distance covered = $2x$ metres.

Relative speed = (46 - 36) km/hr

$= \left(10 \times \frac{5}{18}\right)$ m/sec

$= \left(\frac{25}{9}\right)$ m/sec

$\therefore \frac{2x}{36} = \frac{25}{9}$

$\Rightarrow 2x = 100$

$\Rightarrow x = 50.$

20. A train overtakes two persons who are walking in the same direction in which the train is going, at the rate of 2 kmph and 4 kmph and passes them completely in 9 and 10 seconds respectively. The length of the train is:

A. 45 m

B. 50 m

C. 54 m

D. 72 m

Answer: Option **B**

Explanation:

2 kmph $= \left(2 \times \frac{5}{18}\right)$ m/sec $= \frac{5}{9}$ m/sec.

4 kmph $= \left(4 \times \frac{5}{18}\right)$ m/sec $= \frac{10}{9}$ m/sec.

Let the length of the train be x metres and its speed by y m/sec.

Then, $\left(\frac{x}{y - \frac{5}{9}}\right) = 9$ and $\left(\frac{x}{y - \frac{10}{9}}\right) = 10.$

$\therefore 9y - 5 = x$ and $10(9y - 10) = 9x$

$\Rightarrow 9y - x = 5$ and $90y - 9x = 100.$

On solving, we get: $x = 50.$

$\therefore$ Length of the train is 50 m.

21.Find the greatest number that will divide 43, 91 and 183 so as to leave the same remainder in each case.

A. 4 B. 7

C. 9 D. 13

Answer: Option **A**

Explanation:

Required number = H.C.F. of (91 - 43), (183 - 91) and (183 - 43)

= H.C.F. of 48, 92 and 140 = 4.

---

22. Which of the following fraction is the largest ?

A. $\frac{7}{8}$ B. $\frac{13}{16}$

C. $\frac{31}{40}$ D. $\frac{63}{80}$

Answer: Option **A**

Explanation:

L.C.M. of 8, 16, 40 and 80 = 80.

$\frac{7}{8} = \frac{70}{80}$; $\frac{13}{16} = \frac{65}{80}$; $\frac{31}{40} = \frac{62}{80}$

Since, $\frac{70}{80} > \frac{65}{80} > \frac{63}{80} > \frac{62}{80}$, so $\frac{7}{8} > \frac{13}{16} > \frac{63}{80} > \frac{31}{40}$

So, $\frac{7}{8}$ is the largest.

---

23. $\frac{.009}{?} = .01$

A. .0009 B. .09

C. .9

D. 9

Answer: Option **C**

Explanation:

Let $\frac{.009}{x} = .01$; Then $x = \frac{.009}{.01} = \frac{.9}{1} = .9$

24. The least perfect square, which is divisible by each of 21, 36 and 66 is:

A. 213444

B. 214344

C. 214434

D. 231444

Answer: Option **A**

Explanation:

L.C.M. of 21, 36, 66 = 2772.

Now, 2772 = 2 x 2 x 3 x 3 x 7 x 11

To make it a perfect square, it must be multiplied by 7 x 11.

So, required number = $2^2 \times 3^2 \times 7^2 \times 11^2 = 213444$

25. If $x = \frac{3+1}{3-1}$ and $y = \frac{3-1}{3+1}$, then the value of $(x^2 + y^2)$ is:

A. 10

B. 13

C. 14

D. 15

Answer: Option **C**

Explanation:

$x = \frac{(3+1)}{(3-1)} \times \frac{(3+1)}{(3+1)} = \frac{(3+1)^2}{(3-1)} = \frac{3+1+23}{2} = 2 + 3.$

$y = \frac{(3-1)}{(3+1)} \times \frac{(3-1)}{(3-1)} = \frac{(3-1)^2}{(3-1)} = \frac{3+1-23}{2} = 2 - 3.$

$\therefore\ x^2 + y^2 = (2 + 3)^2 + (2 - 3)^2$

$= 2(4 + 3)$

$= 14$

Direction (for Q.No. 6):

Each of the questions given below consists of a question followed by three statements. You have to study the question and the statements and decide which of the statement(s) is/are necessary to answer the question.

26. What is Arun's present age?

I. Five years ago, Arun's age was double that of his son's age at that time.

II. Present ages of Arun and his son are in the ratio of 11 : 6 respectively.

III. Five years hence, the respective ratio of Arun's age and his son's age will become 12 : 7.

A. Only I and II

B. Only II and III

C. Only I and III

D. Any two of the three

E. None of these

Answer: Option **D**

Explanation:

II. Let the present ages of Arun and his son be $11x$ and $6x$ years respectively.

I. 5 years ago, Arun's age = 2 x His son's age.

III. 5 years hence, $\frac{\text{Arun's Age}}{\text{Son's age}} = \frac{12}{7}$

Clearly, any two of the above will give Arun's present age.

$\therefore$ Correct answer is (D).

27. If A = x% of y and B = y% of x, then which of the following is true?

☐	A.	A is smaller than B.	☐	B.	A is greater than B
☐	C.	Relationship between A and B cannot be determined.	☐	D.	If x is smaller than y, then A is greater than B.
☐	E.	None of these			

Answer: Option **E**

Explanation:

x% of y = $\left(\frac{x}{100} \times y\right)$ = $\left(\frac{y}{100} \times x\right)$ = y% of x

$\therefore$ A = B.

28. If 20% of a = b, then b% of 20 is the same as:

☐	A.	4% of a	☐	B.	5% of a
☐	C.	20% of a	☐	D.	None of these

Answer: Option **A**

Explanation:

20% of a = b $\Rightarrow$ $\frac{20}{100}a = b$.

$\therefore$ b% of 20 = $\left(\frac{b}{100} \times 20\right)$ = $\left(\frac{20}{100}a \times \frac{1}{100} \times 20\right)$ = $\frac{4}{100}a$ = 4% of a.

29. 3 pumps, working 8 hours a day, can empty a tank in 2 days. How many hours a day must 4 pumps work to empty the tank in 1 day?

☐	A.	9	☐	B.	10
☐	C.	11	☐	D.	12

Answer: Option **D**

Explanation:

Let the required number of working hours per day be x.

More pumps, Less working hours per day (Indirect Proportion)

Less days, More working hours per day (Indirect Proportion)

Pumps 4 : 3
Days 1 : 2
} :: 8 : x

$\therefore$ 4 x 1 x x = 3 x 2 x 8

$\Rightarrow x = \frac{(3 \times 2 \times 8)}{(4)}$

$\Rightarrow x = 12$.

30. One pipe can fill a tank three times as fast as another pipe. If together the two pipes can fill the tank in 36 minutes, then the slower pipe alone will be able to fill the tank in:

A. 81 min.
B. 108 min.
C. 144 min.
D. 192 min.

Answer: Option **C**

Explanation:

Let the slower pipe alone fill the tank in x minutes.

Then, faster pipe will fill it in $\frac{x}{3}$ minutes.

$\therefore \frac{1}{x} + \frac{3}{x} = \frac{1}{36}$

$\Rightarrow \frac{4}{x} = \frac{1}{36}$

$\Rightarrow x = 144$ min.

31. A motorboat, whose speed in 15 km/hr in still water goes 30 km downstream and comes back in a

total of 4 hours 30 minutes. The speed of the stream (in km/hr) is:

A. 4 B. 5

C. 6 D. 10

Answer: Option **B**

Explanation:

Let the speed of the stream be x km/hr. Then,

Speed downstream = (15 + x) km/hr,

Speed upstream = (15 - x) km/hr.

$$\therefore \frac{30}{(15+x)} + \frac{30}{(15-x)} = 4\frac{1}{2}$$

$$\Rightarrow \frac{900}{225-x^2} = \frac{9}{2}$$

$$\Rightarrow 9x^2 = 225$$

$$\Rightarrow x^2 = 25$$

$$\Rightarrow x = 5 \text{ km/hr.}$$

---

32. A man took loan from a bank at the rate of 12% p.a. simple interest. After 3 years he had to pay Rs. 5400 interest only for the period. The principal amount borrowed by him was:

A. Rs. 2000 B. Rs. 10,000

C. Rs. 15,000 D. Rs. 20,000

Answer: Option **C**

Explanation:

Principal = Rs. $\left(\frac{100 \times 5400}{12 \times 3}\right)$ = Rs. 15000.

---

33. A man walked diagonally across a square lot. Approximately, what was the percent saved by not walking along the edges?

A. 20 B. 24

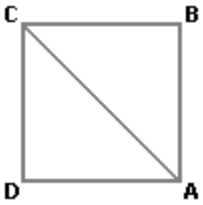
C. 30

D. 33

Answer: Option **C**

Explanation:

Let the side of the square(ABCD) be x metres.



Then, AB + BC = $2x$ metres.

AC = $2x$ = (1.41x) m.

Saving on $2x$ metres = (0.59x) m.

Saving % = $\left(\frac{0.59x}{2x} \times 100\right)\%$ = 30% (approx.)

---

34. By investing in $16\frac{2}{3}\%$ stock at 64, one earns Rs. 1500. The investment made is:

A. Rs. 5640

B. Rs. 5760

C. Rs. 7500

D. Rs. 9600

Answer: Option **B**

Explanation:

To earn Rs. $\frac{50}{3}$, investment = Rs. 64.

To earn Rs. 1500, investment = Rs. $\left(64 \times \frac{3}{50} \times 1500\right)$ = Rs. 5760.

---

35. A man buys a watch for Rs. 1950 in cash and sells it for Rs. 2200 at a credit of 1 year. If the rate of interest is 10% per annum, the man:

A. gains Rs. 55

B. gains Rs. 50

C. loses Rs. 30

D. gains Rs. 30

Answer: Option **B**

Explanation:

S.P. = P.W. of Rs. 2200 due 1 year hence

$= \text{Rs.} \left[\frac{2200 \times 100}{100 + (10 \times 1)} \right]$

= Rs. 2000.

$\therefore$ Gain = Rs. (2000 - 1950) = Rs. 50.

Direction (for Q.No. 16):

Find the odd man out.

36. 10, 25, 45, 54, 60, 75, 80

A. 10 B. 45

C. 54 D. 75

Answer: Option **C**

Explanation:

Each of the numbers except 54 is multiple of 5.

Direction (for Q.Nos. 17 - 19):

Find out the wrong number in the given sequence of numbers.

37. 582, 605, 588, 611, 634, 617, 600

A. 634 B. 611

C. 605 D. 600

Answer: Option **A**

Explanation:

Alternatively 23 is added and 17 is subtracted from the terms. So, 634 is wrong.

38. 36, 54, 18, 27, 9, 18.5, 4.5

A. 4.5 B. 18.5

C. 54 D. 18

Answer: Option **B**

Explanation:

The terms are alternatively multiplied by 1.5 and divided by 3. However, 18.5 does not satisfy it.

39. 56, 72, 90, 110, 132, 150

A. 72 B. 110

C. 132 D. 150

Answer: Option **D**

Explanation:

The numbers are 7 x 8, 8 x 9, 9 x 10, 10 x 11, 11 x 12, 12 x 13.

So, 150 is wrong.

Direction (for Q.No. 20):

Insert the missing number.

40. 8, 24, 12, 36, 18, 54, (....)

A. 27 B. 108

C. 68 D. 72

Answer: Option **A**

Explanation:

Numbers are alternatively multiplied by 3 and divided by 2.

So, the next number = 54 ÷ 2 = 27.

Q41.0.0024/.012*.006=

Q42.A square is inscribed in a circle , radius of the circle is 'a'.Area of the square=

Q43.The angle of a triangle is 1:2:2 then the triangleis

Q44.X's salary is 150% of Y, and Z's salary is 75% of Y, their total salary is

Q45.g[x]=1+x/2, then value of g[2x] in terms of g[x] is

Q46. If X<Y ,which of the following is greater than X and less than Y

Q47. For the sequence 4,8,6,18,15,.....,the next number is

Q48.to find the relationship between X & Y for the given value

Q49.(X*) is the largest integer but less than X.find the value of (5.2*) + (4*)-(2*)=?

Q50. Series of An is given by (An-1)^3,if first value of An is 1 find the series up to four steps

. **In each of the following questions, find out which part of the sentence has an error. if there is no mistake the answer is 'no error'**

Q51. My father is / in bad mood / today. / no error

A B C D

Q52: Both the civilians/ and army men / joined the First World War / today. / No error

A B C D

Q53. The school is / with in hundred yards / from my house / no error

A B C D

Q54. As soon as the teacher entered / everyone fell /in a silence / no error

A B C D

Q55. He took to / reading Times / for better knowledge / of the facts./ no error

A B C D E

Q56.I will put on / a note in this regard / for your consideration / and necessary decision./ no error

A B C D E

Q57;He has been working on /the problem from a long time /but is still not / able to solve it./ no error

A B C D E

In each question, a part of sentence is printed in italics. Below each sentence, some phrases are given which can substitute the italicized part of the sentence. If the sentence is correct as it is, the answer is 'No correction required'

Q58. He ***did many mischiefs***

A. made many a mischiefs B. Made much mischief

C. Committed many mischiefs D. No Correction required

Q59 Rohit is ***as fast as*** or perhaps faster than Manish.

A. Equally fast B. almost as fast C. as fast D. No Correction required

Q60 ***All his family members*** are in Kanpur.

A. All of his family members

B. All the family members if his

C. All the members of his family

D. No Correction required

Q61. I often see him ***dancing*** the top

A. rotating

B. encircling

C. dodging

D. No Correction required

Q62: What is the time ***in*** your watch?

A. on B. by C. from D. No Correction required

Q63:. Columbus ***invented*** America

A. searched B. traced C. discovered D. No Correction required

Q64. Wise men ***catch*** time by the forelock.

A. Hold B. seize C. take D. No Correction required

Q65. A bird in hand is worth ***two in bush***

A. two in the bush b. two at a bush c. two on bush D. No Correction required

Q66. There are 6561 balls out of them 1 is heavy. Find the min. no. of times the balls have to be weighed for finding out the heavy ball.

Q67. If I walk with 30 miles/hr i reach 1 hour before and if i walk with 20 miles/hr i reach 1 hour late. Find the distance between 2 points and the exact time of reaching destination is 11 am then find the speed with which it walks.

Q68. When u reverse the digits of age of father u will get the age of son. one year ago the age of father was twice that of son's age. what are the current ages of father and son?

Q69. In a class there are less than 500 students . when it is divided by 3 it gives a whole number. similarly when it is divided by 4,5 or 7 gives a whole number. find the no. of students in the class

Q70. A coffee seller has two types of coffee Brand A costing 5 bits per pound and Brand B costing 3 bits per pound. he mixes two brands to get a 40 pound mixture. he sold this at 6 bits per pound. the seller gets a profit of 33 1/2 percent. how much he has used Brand A in the mixture?

In each question below are given three Statements followed by three Conclusions numbered I, II and III. You have to take the given Statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given Conclusions logically follows from the given Statements disregarding commonly known facts.

Q71. Statements:
Some cycles are busses.
All cars are buses.
Some buses are trains.
Conclusions:

I. All cares are cycles.
II. Some trains are buses.
III. Some trains are cars.

(1) None follows
(2) Only I and II follow
(3) Only land III follow
(4) Only II and III follow
(5) None of these

Q72 Statements:
All pencils are sticks.
Some sticks are notes.
All diaries are notes.
Conclusions:
I. Some notes are diaries.
II. Some sticks are pencils.
III. Some diaries are sticks.

(1) All follow
(2) Only I follows
(3) Only I and II follow
(4) Only II follows
(5) None of these

Q73 Statements:
Some buds are leaves.
No leaf is fruit.
Some fruits are buds.
Conclusions:
I. Some fruits are leaves.
II. All buds are fruits.
III. Some leaves are buds.

(1) Only I or II follows
(2) Only III follows
(3) Only II follows
(4) None follows
(5) None of these

Q74 Statements:
Some birds are animals.
All animals are rivers.
Some rivers are lions.
Conclusions:
I. Some lions are animals
II. Some rivers are birds
III. No animal is lion

(1) Only II follows
(2) Only either I or III follows
(3) I and II follows
(4) only either II or III follow
(5) None of these

Q75 Statements:
All boxes are pans Some boxes are jugs.
Some jugs are glasses.
Conclusions:
I. Some glasses are boxes
II. No glass is box
III. some jugs are pans

IV. No jug is pan

(1) Only I and II follows
(2) Either I or II and III follows
(3) Only III follows
(4) Either I or II , and either III or IV follow
(5) None of these

Use the following answer choices for the questions below.

A. Statement 1 alone is sufficient but statement 2 alone is not sufficient to answer the question asked.
B. Statement 2 alone is sufficient but statement 1 alone is not sufficient to answer the question asked.
C. Both statements 1 and 2 together are sufficient to answer the question but neither statement is sufficient alone.
D. Each statement alone is sufficient to answer the question.
E. **Statements 1 and 2 are not sufficient to answer the question asked and additional data is needed to answer the statements**.

Q76 If the average size of 3 accounts is $1 million, is the smallest account less than $500,000?

1. The largest account is $1.3 million.
2. One of the accounts is $0.7 million.

Q77 Is the product of *x* and *y* greater than 60?

1. The sum of *x* and *y* is greater than 60.
2. Each of the variables is greater than 2.

Q78 What is the value of *y*?

1. $y - 3 = 2$
2. $y^2 = 25$

Q79 What was the percent increase of Company A's stock between June 1 and June 30, 2000?

1. The stock gained $5 in value during June 2000.

2. The stock rose 12% during the first half of the month

Q80 Which company reported the larger dollar increase in earnings?

1. Company A reported that its earnings increased by 5%.
2. Company B reported that its earnings increased by 7%.

Q81. Ramesh starting from a fixed point goes 15 km towards North and then after turning to his right he goes 15 km. Then he goes 10, 15 and 15 metres after turning to his left each time. How far is he from his starting point?

(A) 5 metres
(B) 10 metres
(C) 20 metres
(D) 15 metres
(E) Can not be determined

Q82. Sonalika goes 12 km towards North from a fixed point and then she goes 8 km towards South from there. In the end she goes 3 km towards east. How far and in what direction is she from her starting point?

(A) 7 km East
(B) 5 km West
(C) 7 km West
(D) 5 km North-East
(E) None of these

Q83. Kanchan goes 5 m towards east from a fixed point N and then 35 km after turning to her left. Again she goes 10 metres after turning to her right. After this she goes 35 m after turning to her right. How far is she from N ?

(A) 40 m
(B) At N
(C) 10 m
(D) 15 m
(E) None of these

Q84. Shri Prakash walked 40 metres facing towards North. From there he walked 50 metres after turning to his left. After this he walked 40 metres after turning to his left. How far and in what direction is he now from his starting point?

(A)40 m, North
(B) 50 m, West
(C) 10 m, East
(D) 10 m, West
(E) None of these

Read the following information carefully and answer the questions given it.

There are six persons A B C D E and F in a school. Each of the teachers teaches two subjects, one compulsory subject and the other optional subject. D's optional subjects was History while there others have it as compulsory subject. E and F have Physics as one of their subjects. F's compulsory subject is Mathematics which is an optional subject of both C and E. History and English are A's subjects but in terms of compulsory and optional subjects, they are just reverse of

those of D's. Chemistry is an optional subject of only one of them. The only female teacher in the school has English as her compulsory subject.

Q85. What is C's compulsory subject?

A) History B) Physics C) Chemistry D) English E) Mathematics

Q86. Who is a female member in the group?

A) A B) B C) C D) D E) E

Q87. Which of the following has some compulsory and optional subjects as those of F's ?

A) D B) B C) A D) C E) None of these

Q88. Disregarding which is the compulsory and which is the optional subject, who has the same two subject combination as F?

A) A B) B C) E D) D E) None of these

Q89.Which of the following groups has History as the compulsory subject?

A) A,C,D B) B,C,D C) C,D D) A,B,C E) A,D

In each question below is given a passage followed by several inference. You have to examine each inference separately in the context of the passage and decide upon its degree of truth or falsity.

mark your answer as :

A. if the inference is ' definitely true' i.e. , it directly follows from the facts given in the passage

B. if the inference is ' probably true' though not definitely true in the light of the facts given

C. if you think the data are in adequate i.e., from the facts given you cannot say whether the inference is likely to be true or false

D. if you think the inference is ' probably false' though not definitely false in the light of the facts given; and

E. if you think inference is ' definitely false' i,e , it contradicts the given facts.

Passage I

A recent survey shows that India has the lowest death rate for blood cancer. China , Thailand and Myanmar (countries that have taste for spices) also have low rates. Higher rates are found in .S.A where spices are not used. The typical American food remains chicken rolls, butter and beef.

Q90. Americans are unorthodox in their food habits.

Q91. Americans dislike spices

Q92. Spices prevent blood cancer

Q93. Spices promote forms of cancer other than blood cancer

Q94 Chicken rolls , butter and beef promote cancer.

1. The difference between the compound interest and the simple interest on a certain sum of money at 5% per annum for 2 years is Rs. 1.50. Find the sum.

(a) Rs. 800
(b) Rs. 1200
(c) Rs. 400
(d) Rs. 600
(e) None of these

Ans: (d) Rs. 600

2. 7589 ? ? = 3434

(a) 3721
(b) 4155
(c) 3246
(d) 11023
(e) None of these

Ans:(b) 4155

3. Digits of first place and third place are interchanged of the numbers 349, 483, 766, 598, 674 and then the new numbers are arranged in ascending order. Which would be the fourth number ?

(A) 483
(B) 766
(C) 674
(D) 598

Ans : (D)

4. A circle and a rectangle have the same perimeter. The sides of the rectangle are 18 cm and 26 cm. What will be the area of the circle?

(a) 88 cm2
(b) 1250 cm2
(c) 154 cm2
(d) 128 cm2
(e) None of these

Ans: (e) None of these

5. 40.83 x 1.02 x 1.2 = ?

(a) 49.97592

(b) 41.64660
(c) 58.7952
(d) 42.479532
(e) None of these

Ans:(a) 49.97592

6. Rs. 1581 is divided among A, B and C in the ratio 10 : 15 : 6. What is the share of B?

(a) 306 (b) 765 (c) 700 (d) 510

Ans:- B

7. In a row of children facing North, Bharat is eleventh from the right end and is third to the right of Samir who is fifteenth from the left end. Total how many children are there in the row ?

(A) 29

(B) 28

(C) 30

(D) 27

Ans : (B)

8) find the middle term 5,15/2,..,25/2,15

a) 10
b) 9
c) 23/2
d) 8
e) none of these

9) A man can swim downstream at 6km/hr and upstream at 2km/hr his speed in still water is

a) 4 km/hr
b) 2 km/hr
c) 6 km/hr
d) 1 km/hr

10) sum of the roots of a quadratic equation ax2+bx+c=0 n the is equivalent to so and so n a/b ,b/c c/a these r in which progression(I don’t remember question properly)

a) AP
b) GP
c) HP
d) None of these

Capital IQ Placement Papers - I:-

1.In recommendations to the board of trustees a tuition increase of $500 per year, the president of the university said "There were no student demonstrations over the previous increases of $300 last year and $200 the year before".
If the president's statement is accurate then which of the following can be validly inferred from the information given:
I. Most students in previous years felt that the increases were justified because of increased operating costs.
II. Student apathy was responsible for the failure of students to protest the previous tuition increases.
III. Students are not likely to demonstrate over new tuition increases.

(a) I only
(b) II only
(c) I or II but not both
(d) I, II and III
(e) None

Ans. (a)

2. When the democratic party holds presidency, the staff of the prime minister's deputies are composed

I. One-fourth of democratic party members
II. One-half of justice party members and one-fourth of conservative party members
III. One-half of conservative party members and one-fourth of justice party members.

(a) I only
(b) I and II only
(c) II or III but not both
(d) I and II or I and III
(e) None of these

Ans. (a)

3. Which of the following is allowable under the rules as stated:

(a) More than half of the staff within a given office belonging to a single party
(b) Half of the staff within a given office belonging to a single party
(c) Any person having a member of the same party as his or her immediate superior
(d) Half the total number of staff members in all three offices belonging to a single party
(e) Half the staff members in a given office belonging to parties different from the party of the top office holder in that office.

Ans. (a)

4. The office of the Army Chief passes from Conservative to Justice party. Which of the following must be fired.

(a) The democratic deputy and all staff members belonging to Justice party
(b) Justice party deputy and all his or hers staff members
(c) Justice party deputy and half of his Conservative staff members in the chief of staff office
(d) The Conservative deputy and all of his or her staff members belonging to Conservative party

(e) No deputies and all staff members belonging to conservative parties.

Capital IQ Placement Paper:-

Q. 01: A certain number of men can finish a piece of work in 10 days. If however there were 10 men less it will take 10 days more for the work to be finished. How many men were there originally?

a) 110 men
b) 130 men
c) 100 men
d) none of these

Ans: a

Q. 02: x% of y is y% of ?

a) x/y
b) 2y
c) x
d) can t be determined

Ans: c

Q. 03: 15 men take 21 days of 8 hrs. each to do a piece of work. How many days of 6 hrs. each would it take for 21 women if 3 women do as much work as 2 men?

a) 30
b) 20
c) 19
d) 29

Ans: a

Q. 04: An article sold at a profit of 20% if both the cost price and selling price would be Rs.20/- the profit would be 10% more. What is the cost price of that article?

Q. 05: An artical sold at amount of 50% the net sale price is rs 425 .what is the list price of the artical?

a) 500
b) 488
c) 480
d) 510

Ans: a

Q. 06: A boy has Rs 2. He wins or loses Re 1 at a time If he wins he gets Re 1 and if he loses the game he loses Re 1.He can loose only 5 times. He is out of the game if he earns Rs 5.Find the number of ways in which this is possible?

Ans: 16

Q. 07: A man shows his friend a woman sitting in a park and says that she the daughter of my grandmother s only son. What is the relation between the two...

Ans. Daughter

Q. 08: The petrol tank of an automobile can hold g liters. If a liters was removed when the tank was full, what part of the full tank was removed?

a) g-a
b) g/a
c) a/g
d) (g-a)/a
e) (g-a)/g

Ans: c

Q. 09: If the operation,^ is defined by the equation x ^ y = 2x + y,what is the value of a in 2 ^ a = a ^ 3?

a) 0
b)1
c) -1
d) 4

Ans: b

Q. 10: If a and b are positive integers and (a-b)/3.5 = 4/7, then?

a) b < a
b) b > a
c) b = a
d) b >= a

Ans: a

Q. 01: In simple interest what sum amounts of Rs.1120/- in 4 years and Rs.1200/- in 5 years?

a) Rs. 500
b) Rs. 600
c) Rs. 800

d) Rs. 900

Ans: c

Q. 02: The price of sugar increases by 20%, by what % should a housewife reduce the consumption of sugar so that expenditure on sugar can be same as before?

a) 15%
b) 16.66%
c) 12%
d) 9%

Ans: b

Q. 03: A cylinder is 6 cms in diameter and 6 cms in height. If spheres of the same size are made from the material obtained, what is the diameter of each sphere?

a) 5 cms
b) 2 cms
c) 3 cms
d) 4 cms

Ans: c

Q. 04: If an item costs Rs.3 in 99 and Rs.203 in 00.What is the % increase in price?

a) 200/3 %
b) 200/6 %
c) 100%
d) none of these

Ans: a

Q. 05: A man leaves office daily at 7pm A driver with car comes from his home to pick him from office and bring back home.One day he gets free at 5:30 and instead of waiting for driver he starts walking towards home. In the way he meets the car and returns home on car He reaches home 20 minutes earlier than usual. In how much time does the man reach home usually?

Ans: 1hr 20min

Q. 06: On a particular day A and B decide that they would either speak the truth or will lie. C asks A whether he is speaking truth or lying? He answers and B listens to what he said. C then asks B what A has said B says "A says that he is a liar" What is B speaking?

a) Truth
b) Lie
c) Truth when A lies
d) Cannot be determined

Ans: b

Q. 07: A student gets 70% in one subject, 80% in the other. To get an overall of 75% how much should get in third subject?

Q. 08: If x/y=4 and y is not 0 what % of x is 2x-y?

a)150%
b)175%
c)200%
d)250%

Ans: b

Q. 09: A coffee shop blends 2 kinds of coffee,putting in 2 parts of a 33p. a gm. grade to 1 part of a 24p. a gm.If the mixture is changed to 1 part of the 33p. a gm. to 2 parts of the less expensive grade,how much will the shop save in blending 100 gms?

a) Rs.90
b) Rs.1.00
c) Rs.3.00
d) Rs.8.00

Ans: c

Q. 10: A company contracts to paint 3 houses. Mr.Brown can paint a house in 6 days while Mr.Black would take 8 days and Mr.Blue 12 days. After 8 days Mr.Brown goes on vacation and Mr. Black begins to work for a period of 6 days. How many days will it take Mr.Blue to complete the contract?

a) 7
b) 8
c) 11
d) 12

Ans: c