For the following questions answer them individually

Question 51

A gift box consists of 10 rings. The average weight of the first 4 rings is 37 grams and the average weight of the remaining 6 rings is 38 grams. Find the average weight of the total rings.(in grams)

A   37.4

B   37.6

C   37.8

D   37.2

Answer: B

Explanation:

Average weight of first 4 rings = 37 grams

=> Weight of first 4 rings = $37 \times 4 = 148$ grams

Similarly, weight of remaining 6 rings = $38 \times 6 = 228$ grams

$\therefore$ Average weight of the total rings = $\frac{148+228}{10} = 37.6$ grams

=> Ans - (B)

Question 52

When the article sold at the rate of Rs.2500 earned a profit of 11% more than that of the loss incurred when the same article sold at the rate of Rs.1234. Find the Cost price of the article.

A   Rs.1843

B   Rs.1348

C   Rs.1384

D   Rs.1834

Answer: D

Explanation:

Let cost price of the article = Rs. x

Loss = Rs. $(x - 1234)$

Profit = Rs. $(2500 - x)$

According to ques, => $\frac{P-L}{L} \times 100 = 11$

=> $\frac{(2500-x)-(x-1234)}{(x-1234)} \times 100 = 11$

=> $\frac{3734-2x}{x-1234} = \frac{11}{100}$

=> $11x - 13574 = 373400 - 200x$

=> $11x + 200x = 373400 + 13574 = 386974$

=> $x = \frac{386974}{211} = 1834$
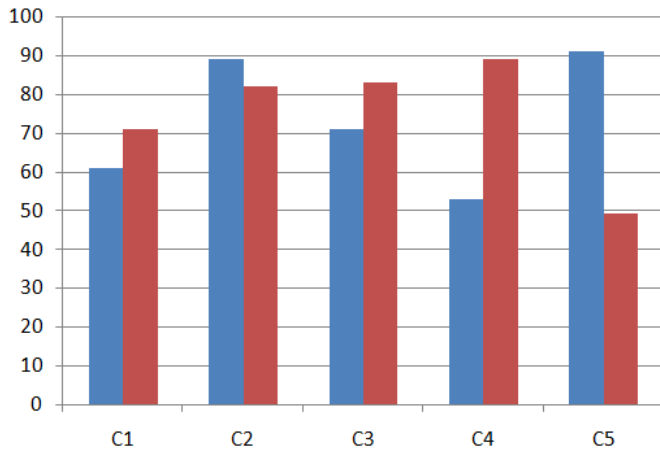
∴ Cost price = **Rs. 1834**

=> Ans - (D)

Question 53

Directions:
Study the following bar graph and answer the question that follows:
Sales of books (in thousands) from 5 branches (C1,C2,C3,C4&C5) of a publishing company for the two successive years 2010 and 2011.
What is the total sales in the branches C1, C3 and C5 together for both the years? (in thousands)

A 425

B 437

C 403

D 450

   Answer: A

Explanation:
Total sales in the branches C1, C3 and C5 together for both the years (in thousands)

= (61 + 71) + (71 + 82) + (91 + 49) = 425

=> Ans - (A)

Question 54

A shopkeeper sells a product at the rate of Rs.1386 and earns a profit of 12.5%. Find the amount which is equal to half of the cost price of the product.

A Rs.816

B Rs.516

C Rs.616

D Rs.716

   Answer: C

Explanation:

Selling price = Rs. 1386 and profit % = 12.5%

=> Cost price = $\frac{1386}{(100+12.5)} \times 100$

= $12.32 \times 100 = Rs.\ 1232$

∴ Amount which is equal to half of the cost price of the product = $\frac{1232}{2} = Rs.\ 616$

=> Ans - (C)

Question 55

Find the number of trailing Zeros in 142!

A 36

B 30

C 34

D 32

    Answer: C

Explanation:

Number of trailing zeroes = $\frac{142}{5} + \frac{142}{25} + \frac{142}{125}$

= $28 + 5 + 1 = 34$ [Number will be round off to the lowest value]

=> Ans - (C)

Question 56

A person cycles from hostel to college at a speed of 36 kmph and reaches 7 minutes late. If he cycles at a speed of 45 kmph and he reaches early by 5 minutes. Find the distance between hostel and college.

A 39 km

B 32 km

C 36 km

D 42 km

    Answer: C

Explanation:

Let ideal time taken = t hours

Also, speed is inversely proportional to time.

=> $\frac{36}{45} = \frac{t - \frac{5}{60}}{t + \frac{7}{60}}$

=> $4t + \frac{7}{15} = 5t - \frac{5}{12}$

=> $5t - 4t = \frac{7}{15} + \frac{5}{12}$

=> $t = \frac{28+25}{60} = \frac{53}{60}$

∴ Distance = speed $\times$ time

= $36 \times \left(\frac{53}{60} + \frac{7}{60}\right)$

= $36 \times 1 = 36$ km

=> Ans - (C)

Question 57

If the radius of a circle is nine times, its perimeter will become how many times of its previous perimeter?

A 9

B 11

C 10

D 8

   Answer: A

Explanation:

Radius of circle is directly proportional to perimeter, $P = 2\pi r$

So, if radius is increased 9 times, hence the perimeter will become **9 times** of its previous perimeter.

=> Ans - (A)

Question 58

$\frac{1}{12} \div \frac{1}{12} \div \frac{1}{12} \div \frac{1}{12} \div \frac{1}{12}$ = ?

A 1728

B 1287

C 1278

D 1782

   Answer: A

Explanation:

Expression : $\frac{1}{12} \div \frac{1}{12} \div \frac{1}{12} \div \frac{1}{12} \div \frac{1}{12}$

= $\left[\frac{1}{12} \div \frac{1}{12} \right] \div \left[\frac{1}{12} \div \frac{1}{12} \div \frac{1}{12} \right]$

= $\left(1 \div \frac{1}{12} \right) \div \frac{1}{12} \div \frac{1}{12}$

= $\left(12 \div \frac{1}{12} \right) \div \frac{1}{12}$

= $12 \times 12 \div \frac{1}{12}$

= $144 \times 12 = 1728$

=> Ans - (A)

Question 59

Anil shared 500 gifts among 4 kids. The share of the first kid, twice the share of second kid, thrice the share of third kid and four times the share of fourth kid are all equal. Find the sum of gifts received by 1st kid and 2nd kid.

A 360

B 380

C 280

D 300

   Answer: A

Explanation:

Let share of each kid be a, b, c, d respectively.

Then according to ques, => $a = 2b = 3c = 4d = k$

=> $a = k$, $b = \frac{k}{2}$, $c = \frac{k}{3}$, $d = \frac{k}{4}$

Thus, total = $a + b + c + d = 500$

=> $k + \frac{k}{2} + \frac{k}{3} + \frac{k}{4} = 500$

=> $k \times \left(\frac{12+6+4+3}{12}\right) = 500$

=> $k = 500 \times \frac{12}{25} = 240$

$\therefore$ Sum of gifts received by 1st kid and 2nd kid = $a + b = k + \frac{k}{2} = 3\frac{k}{2}$

= $3 \times \frac{240}{2} = 360$

=> Ans - (A)

Question 60

Simplify:
$\sqrt{20.25} + \sqrt{75.69} + 8.7 =?$

A 21.3

B 21.9

C 21.5

D 21.7

   Answer: B

Explanation:

Expression : $\sqrt{20.25} + \sqrt{75.69} + 8.7 =?$

= $4.5 + 8.7 + 8.7 = 21.9$

=> Ans - (B)

Question 61

When a number is divided by 72 it leaves a remainder 8. What will be the remainder, when the same number divided by 9.

A 2

B 4

C 8

D 7

   Answer: C

Explanation:

When a number is divided by 72 it leaves a remainder 8, let the number be = $72 + 8 = 80$

Now, when 80 is divided by 9, => $80 = 9 \times 8 + 8$

Thus, remainder = **8**

=> Ans - (C)

Question 62

In how many ways that 448 mobiles can be distributed equally to the students in the class?

A 18

B 12

C 16

D 14

Answer: D

Question 63

A sum of Rs.5400 invested under simple interest at rate of 8% p.a. If the amount after 5 years is withdrawn and half of the total amount is invested in Share market. Find the remaining amount.(in Rs)

A 3780

B 3480

C 3680

D 3580

Answer: A

Explanation:
Principal sum = Rs. 5400

Rate of interest = 8% and time period = 5 years

Simple interest = $\frac{P \times R \times T}{100}$

= $\frac{5400 \times 8 \times 5}{100} = Rs.\,2160$

Thus, total amount after 5 years = $Rs.\,(5400 + 2160) = Rs.\,7,560$

$\therefore$ Remaining amount after half of the total amount is been invested in Share market = $\frac{7560}{2} = Rs.\,3780$

=> Ans - (A)

Question 64

Find the product of two numbers, whose LCM is 65 and HCF is 8.

A 520

B 420

C 360

D 480

Answer: A

Explanation:
Product of the 2 numbers = Product of L.C.M. and H.C.F.

= $65 \times 8 = 520$

=> Ans - (A)

Question 65

The amount doubles itself under Compound interest in 3 years. In how many years will it become 128 times of it?

A   25 Years

B   19 Years

C   21 Years

D   23 Years

   Answer: C

Explanation:
The amount gets doubled in 3 years.

In case of compound interest, the amount will become 2^n times in $3n$ years

=> Final amount = $128 = (2)^7$

Thus, after $3 \times 7 = 21$ years, amount will become 128 times.

=> Ans - (C)

Question 66

The shopkeeper added 36% of the cost price as mark up and then he gives a discount of same 36% on the marked price for a sale, then what will be the overall profit or loss percentage.

A   12.96% profit

B   11.56% loss

C   12.96% loss

D   11.56% profit

   Answer: C

Explanation:
Let cost price = Rs. 100

=> Marked price = $100 \times \left(\frac{136}{100}\right) = Rs.\,136$

Thus, selling price after discount of 36% = $136 \times \frac{100-36}{100} = Rs.\,87.04$

∴ **Loss %** = $\frac{100-87.04}{100} \times 100 = 12.96\%$

=> Ans - (C)
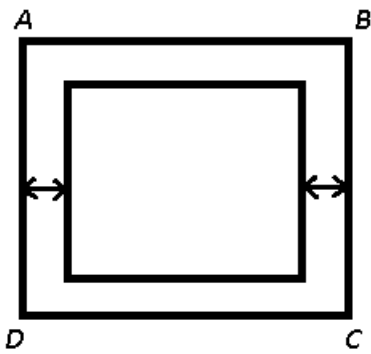
Question 67

Total area of the square Glass Piece is 729 cm^2, which is placed on the top of a table. The width between the edge of the table and the glass piece is 9 cm wide. Find the length of the table.

A 45 cm

B 41 cm

C 43 cm

D 47 cm

   Answer: A

Explanation:

ABCD is the table and the glass piece is placed inside.

Side of glass = $\sqrt{729} = 27$ cm

Width between glass and table = 9 cm

=> Side of table = $9 + 27 + 9 = 45$ cm

=> Ans - (A)

Question 68

The average weight of 101 Notebook in a box is 10.1 kg. When a new Notebook is added to the box the average goes to 10.2 kg. Find the weight of the new Notebook.

A 19.7 kg

B 20.5 kg

C 20.1 kg

D 20.3 kg

   Answer: D

Explanation:

Average weight of 101 Notebooks in a box = 10.1 kg

=> Total weight = $101 \times 10.1 = 1020.1$ kg

Let weight of new book = x kg

=> New average = $\frac{1020.1 + x}{102} = 10.2$

=> $1020.1 + x = 102 \times 10.2 = 1040.4$

=> $x = 1040.4 - 1020.1 = 20.3$ kg

=> Ans - (D)

Question 69

A bulb producing company found that 11% of the overall product is defective. If the number of non defective products is 5607 then find the number of defective products.

A 983

B 463

C 693

D 643

    Answer: C

Explanation:

% of non defective products = $89\% \equiv 5607$

=> Number of defective products = $11\% \equiv \frac{5607}{89} \times 11$

= $63 \times 11 = 693$

=> Ans - (C)

Question 70

A train takes 67 seconds to cross a bridge of length 266 m. If the same train takes 29 seconds to cross a sign board, find the length of the train.

A 203 m

B 215 m

C 205 m

D 200 m

    Answer: A

Explanation:

Let length of train = l m and speed = s m/s

Speed of train which takes 67 seconds to cross a bridge of length 266 m = $s = \frac{266+l}{67}$ ----------(i)

Also, $s = \frac{l}{29}$ -------------(ii)

Substituting value of s from equation (ii) in (i), we get :

=> $\frac{l}{29} = \frac{266+l}{67}$

=> $67l = (266 \times 29) + 29l$

=> $67l - 29l = 38l = 266 \times 29$

=> $l = \frac{266 \times 29}{38} = 203$

∴ Length of train = **203 m**

=> Ans - (A)

Question 71

The salary ratio of Hakeem, Christo and Ganesh is 3:5:7, if Ganesh is getting Rs.524 more than Hakeem. What is the salary of Christo?

A 545

B 655

C 685

D 610

Answer: B

Explanation:
Let salary of Hakeem, Christo and Ganesh be $3x, 5x$ and $7x$ respectively.

According to ques, => $7x - 3x = 524$

=> $x = \frac{524}{4} = 131$

∴ Christo's salary = $5 \times 131 = Rs.\,655$

=> Ans - (B)

Question 72

Jeno obtained 65 marks out of 80 in French, 89 marks out of 100 in English, 58 out of 70 in Spanish and 40 out of 50 in Japanese. What was the overall percentage obtained by her?

A 86

B 84

C 82

D 80

Answer: B

Explanation:
Marks obtained = 65 + 89 + 58 + 40 = 252

Maximum marks = 80 + 100 + 70 + 50 = 300

∴ Overall percentage obtained by him = $\frac{252}{300} \times 100 = 84\%$

=> Ans - (B)

Question 73

In a support project of an English based company, there are 511 male and 511 female employees. The average productivity of all the employees is 61 calls per day. The average calls attended by a male employee is 61 calls per day. What is the average calls attended per day by a female employees?

A 59

B 63

C 61

D 65

Answer: C

Explanation:
Since, there are an equal number of male and female employees in the company, and also the average productivity is 61 calls per day which is equal to the number of calls attended by the males.

Thus, number of calls attended per day by a female employee will also equal to = **61**

=> Ans - (C)

Question 74

Merlin walks certain distance at (9/10)th of the usual speed and takes 15 minutes more than the usual time. Find the usual time taken.

A 145 mins

B 135 mins

C 85 mins

D 115 mins

Answer: B

Explanation:

Let usual speed = 10 m/min and usual time taken = t min

=> New speed = 9 m/min and new time = $(t + 15)$ min

Also, speed is inversely proportional to time.

=> $\frac{10}{9} = \frac{t+15}{t}$

=> $10t = 9t + 135$

=> $10t - 9t = t = 135$

$\therefore$ Usual time taken = **135 minutes**

=> Ans - (B)

Question 75

Time taken by Vicky and Rakesh to cover a distance of 1000 km are in the ratio of 29 : 23. Find the ratio of their speeds.

A 27:29

B 29:31

C 24:29

D 23:29

Answer: D

Explanation:

Ratio of time taken = 29 : 23

Since, both are covering the same distance, and speed is inversely proportional to time.

Thus, ratio of their speeds = **23 : 29**

=> Ans - (D)

Question 76

Sandy donates 13% of his Salary to Visually challenged organization, 12% of his Salary to orphanage, 14% of his Salary to Physically challenged organization and 16% of his Salary to the foundations for medical help. The remaining amount Rs.24345 of Salary has been deposited in the bank for monthly expenses. Find the amount donated to orphanage.

A 6452

B 6942

C 6782

D 6492

Answer: D

Explanation:

If total salary is 100%, then % salary remaining after the donations = $100 - (13 + 12 + 14 + 16) = 45\%$

According to ques, $45\% \equiv Rs.\ 24,345$

Thus, amount donated to orphanage = $12\% \equiv \dfrac{24345}{45} \times 12$

= $541 \times 12 = Rs.\ 6,492$

=> Ans - (D)

Question 77

The difference between the interest earned on the same amount invested under compound interest and simple interest at same rate of interest for 2 years is Rs. 44. If the rate of interest is 4% p.a. then find the amount invested(in Rs.)

A 26500

B 25500

C 27500

D 28500

Answer: C

Explanation:

Rate of interest = 4% and time period = 2 years

Let principal sum = Rs. P

Also, difference between compound interest and simple interest for 2 years = $P\left(\dfrac{r}{100}\right)^2$

=> $P\left(\dfrac{4}{100}\right)^2 = 44$

=> $P = 44 \times \dfrac{10000}{16}$

=> $P = 44 \times 625 Rs.\ 27,500$

=> Ans - (C)

Question 78

A Person travel Equilateral triangular area with the speed of 24kmph, 36kmph, and 72kmph along the planes of the triangular field. Find the average speed of the journey.

A 30 kmph

B 45 kmph

C 24 kmph

D 36 kmph

Answer: D

Explanation:

Since, the distance travelled is equal on the three sides, hence average speed will be the harmonic mean of the speeds.

$= \dfrac{3}{\frac{1}{24} + \frac{1}{36} + \frac{1}{72}}$

$$= \frac{3 + \frac{3}{2} + 1}{72}$$

$$= \frac{3}{6} \times 72 = 36 \text{ km/hr}$$

=> Ans - (D)

Question 79

Directions:
Study the following bar graph and answer the question that follows:
Sales of books (in thousands) from 5 branches (C1,C2,C3,C4&C5) of a publishing company for the two successive years 2010 and 2011.
What is the ratio of the total sales of branch C2 for both years to the total sales of branch C4 for both years?

A 142:171

B 171:142

C 182:163

D 163:182

Answer: B

Explanation:
Total sales of branch C2 for both years = 89 + 82 = 171

Total sales of branch C4 for both years = 53 + 89 = 142

=> Required ratio = **171:142**

=> Ans - (B)

Question 80

Simplify:

$$468 \div \left\{ 4 \frac{3}{4} \left[\frac{16}{15} \right] - \frac{2}{3} \right\} = ?$$

A 5310

B 3510

C 3150

D 5130

   Answer: B

Explanation:

Expression : $468 \div \left\{ 4\frac{3}{4} \left[\frac{16}{15} \right] - \frac{2}{3} \right\}$ = ?

= $468 \div \left\{ \frac{4}{5} - \frac{2}{3} \right\}$

= $468 \div \left\{ \frac{12-10}{15} \right\}$

= $468 \times \frac{15}{2} = 3510$

=> Ans - (B)

Question 81

Simplify:

$(7^4)^2 \times 343^{\frac{1}{2}} \times 7 + 17 = ?$

A 320

B 340

C 360

D 380

   Answer: C

Explanation:

Expression : $(7^4)^2 \times 343^{\frac{1}{2}} \times 7 + 17$

= $\left[(7)^8 \times 7^{\frac{1}{6}} \times (7)^1 \right] + 17$

= $\left[(7)^{8+1-6} \right] + 17$

= $343 + 17 = 360$

=> Ans - (C)

Question 82

What is the height of the cuboid, if the cube of diagonal 11√3 cm is melted and casted, the cuboid's length is the same as the cube's side and the breadth of the cuboid is 5.5 cm?

A 20 cm

B 18 cm

C 22 cm

D 24 cm

   Answer: C

Explanation:

Let side of cube be a cm

=> Diagonal = $\sqrt{a^2 + a^2 + a^2} = 11\sqrt{3}$

=> $\sqrt{3}a = 11\sqrt{3}$

=> $a = 11$ cm

Let height of cuboid = h cm, length, $l = 11$ cm and breadth, $b = 5.5$ cm

According to ques, Volume of cuboid = Volume of cube

=> $lbh = a^3$

=> $11 \times 5.5 \times h = (11)^3$

=> $h = \frac{11 \times 11}{5.5} = 22$ cm

=> Ans - (C)

Question 83

Station master decides that the length and the breadth of the rectangular Digital Board is increases by 6% and decreases by 6% respectively. Find the overall change in the area

A 0.24% Increase

B 0.36% Increase

C 0.36% decrease

D 0.24% decrease

Answer: C

Explanation:
Let the length and breadth of rectangle be 100 cm

=> Original area = $100 \times 100 = 10000 \; cm^2$

Increasing the length by 6%, => new length = $100 \times \frac{106}{100} = 106$ cm

Similarly, new breadth = 94 cm

=> New area = $106 \times 94 = 9964 \; cm^2$

∴ Area is **decreased** by = $\frac{10000 - 9964}{10000} \times 100 = 0.36\%$

=> Ans - (C)

Question 84

A Box contains three different types of old coins in the ratio 7:6:8, the values of old coins are 1 rupee, 5 rupees and 10 rupees respectively. If the total value of the coins in the box is Rs.936, find the number of old coins values 5 rupees.

A 48

B 52

C 46

D 50

Answer: A

Explanation:
Let number of 1 rupee, 5 rupees and 10 rupees respectively be $7x, 6x$ and $8x$

Total amount = $(1 \times 7x) + (5 \times 6x) + (10 \times 8x) = 936$

=> $7x + 30x + 80x = 936$

$$\Rightarrow x = \frac{936}{117} = 8$$

$\therefore$ Number of 5 rupees coins = $6 \times 8 = 48$

=> Ans - (A)

Question 85

Directions:
Study the following bar graph and answer the question that follows:
Sales of books (in thousands) from 5 branches (C1,C2,C3,C4&C5) of a publishing company for the two successive years 2010 and 2011.
What is the average sales of all the branches (in thousands) for the year 2010?

A 72

B 74

C 75

D 73

Answer: D

Explanation:
Total sales of all the branches (in thousands) for the year 2010

= 61 + 89 + 71 + 53 + 91 = 365

=> Average sales = $\frac{365}{5} = 73$

=> Ans - (D)