

Quant

Instructions

For the following questions answer them individually

Question 86

LCM of two numbers is 90 and their HCF is 3. Given that one number is 18, find the second number.

A 90

B 12

C 15

D 17

Answer: C

Explanation:

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

Let second number be x

$$\Rightarrow x \times 18 = 90 \times 3$$

$$\Rightarrow x = \frac{270}{18} = 15$$

\Rightarrow Ans - (C)

Question 87

The Loss incurred by selling an article at Rs.335 is 60% of the gain attained by selling the same article at Rs.671. Find the cost price of the article. (in Rs)

A 461

B 458

C 459

D 460

Answer: A

Explanation:

Let cost price of the article = Rs. x

$$\text{Loss} = \text{Rs. } (x - 335)$$

$$\text{Profit} = \text{Rs. } (671 - x)$$

$$\text{According to ques, } \Rightarrow x - 335 = \frac{60}{100}(671 - x)$$

$$\Rightarrow 5x - 1675 = 2013 - 3x$$

$$\Rightarrow 5x + 3x = 2013 + 1675 = 3688$$

$$\Rightarrow x = \frac{3688}{8} = 461$$

\therefore Cost price = **Rs. 461**

\Rightarrow Ans - (A)

Question 88

What is the height of the cuboid, if the cube of diagonal $44\sqrt{3}$ cm is melted and casted, the cuboid's length is the same as the cube's side and the breadth of the cuboid is 22cm? (in cm)

- A 99
- B 101
- C 88
- D 77

Answer: C

Explanation:

Let side of cube be a cm

$$\Rightarrow \text{Diagonal} = \sqrt{a^2 + a^2 + a^2} = 44\sqrt{3}$$

$$\Rightarrow \sqrt{3}a = 44\sqrt{3}$$

$$\Rightarrow a = 44 \text{ cm}$$

Let height of cuboid = h cm, length, $l = 44$ cm and breadth, $b = 22$ cm

According to ques, Volume of cuboid = Volume of cube

$$\Rightarrow lbh = a^3$$

$$\Rightarrow 44 \times 22 \times h = (44)^3$$

$$\Rightarrow h = \frac{44 \times 44}{22} = 88 \text{ cm}$$

\Rightarrow Ans - (C)

Question 89

A person cycles from hostel to college at a speed of 20 kmph and reaches 6.5 minutes late. If he cycles at a speed of 24 kmph and reaches early by 6.5 minutes, find the distance between hostel and college. (in km)

- A 27
- B 29
- C 26
- D 28

Answer: C

Explanation:

Let ideal time taken = t hours

Also, speed is inversely proportional to time.

$$\Rightarrow \frac{20}{24} = \frac{t - \frac{6.5}{60}}{t + \frac{6.5}{60}}$$

$$\Rightarrow 5t + \frac{6.5}{12} = 6t - \frac{6.5}{10}$$

$$\Rightarrow 6t - 5t = \frac{6.5}{12} + \frac{6.5}{10}$$

$$\Rightarrow t = \frac{32.5 + 39}{60} = \frac{71.5}{60}$$

\therefore Distance = speed \times time

$$= 20 \times \left(\frac{71.5}{60} + \frac{6.5}{60} \right)$$

$$= \frac{78}{3} = 26 \text{ km}$$

=> Ans - (C)

Question 90

The length of a floor is 125% of its breadth. If the area of floor is $125m^2$, what is the sum of the length and the breadth of the floor? (in m)

A 20.5

B 22.5

C 18

D 25

Answer: B

Explanation:

Let breadth of floor = x m

$$\Rightarrow \text{Length} = \frac{125}{100} \times x = 1.25x \text{ m}$$

$$\text{Area} = x \times 1.25x = 125$$

$$\Rightarrow x^2 = \frac{125}{1.25} = 100$$

$$\Rightarrow x = \sqrt{100} = 10$$

$$\therefore \text{Sum of length and breadth} = x + 1.25x = 2.25x$$

$$= 2.25 \times 10 = 22.5$$

=> Ans - (B)

Question 91

Anil obtained 79 marks out of 120 in French, 95 marks out of 130 in English, 31 out of 70 in Spanish and 35 out of 80 in Japanese. What is the overall percentage obtained by him? (in %)

A 50

B 60

C 65

D 55

Answer: B

Explanation:

$$\text{Marks obtained} = 79 + 95 + 31 + 35 = 240$$

$$\text{Maximum marks} = 120 + 130 + 70 + 80 = 400$$

$$\therefore \text{Overall percentage obtained by him} = \frac{240}{400} \times 100 = 60\%$$

=> Ans - (B)

Question 92

Martin donates 13% of his Salary to organization for Visually challenged, 12% of his Salary to orphanage, 14% of his Salary to organization for Physically challenged and 16% of his Salary to the foundations for medical help. If the remaining amount Rs.18,900 of Salary has been deposited in the bank for monthly expenses. Find the amount donated to organization for Visually challenged. (in Rs.)

- A 5,660
- B 5,760
- C 5,560
- D 5,460

Answer: D

Explanation:

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

According to ques, $45\% \equiv Rs. 18,900$

Thus, amount donated to organization for Visually challenged = $13\% \equiv \frac{18900}{45} \times 13$

= $420 \times 13 = Rs. 5,460$

=> Ans - (D)

Question 93

A bulb producing company found that 19% of the overall product is defective. If the number of non defective products is 1944 then find the number of defective products.

- A 457
- B 456
- C 459
- D 458

Answer: B

Explanation:

% of non defective bulbs = $100 - 19 = 81\% \equiv 1944$

=> Number of defective products = $19\% \equiv \frac{1944}{81} \times 19$

= $24 \times 19 = 456$

=> Ans - (B)

Question 94

The number of employees working in a firm is increased by 14% and the wages per head are decreased by 14%. If it results in x% decrease in total wages, then find the value of x.

- A 1.98
- B 1.97
- C 1.95

D 1.96

Answer: D

Explanation:

Let number of employees in the firm initially = 100 and wages per head = Rs. 100

$$\Rightarrow \text{Total wages} = 100 \times 100 = \text{Rs. } 10,000$$

$$\text{Number of employees after decrease of 14\%} = 100 - \frac{14}{100} \times 100 = 86$$

Similarly, new wages per head = Rs. 114

$$\Rightarrow \text{New wages} = 86 \times 114 = \text{Rs. } 9804$$

$$\therefore \text{Decrease in total wages} = \frac{10000 - 9804}{10000} \times 100 = 1.96\%$$

\Rightarrow Ans - (D)

Question 95

Simplify:

$$132 - [5^2 - 4^2 + \sqrt{(144 \div 12 + 132(2 \times 2 \div 4))}]$$

A 101

B 111

C 121

D 134

Answer: B

Explanation:

$$\text{Expression : } 132 - [5^2 - 4^2 + \sqrt{(144 \div 12 + 132(2 \times 2 \div 4))}]$$

$$= 132 - [5^2 - 4^2 + \sqrt{(12 + 132(1))}]$$

$$= 132 - [25 - 16 + \sqrt{144}]$$

$$= 132 - (9 + 12) = 111$$

\Rightarrow Ans - (B)

Question 96

Find the fraction of X, X = 0.7822222...

A 704/900

B 711/990

C 741/900

D 721/990

Answer: A

Explanation:

Given : $x = 0.7822222\dots$

$$\Rightarrow 100x = 78.22222\dots \text{-----(i)}$$

$$\Rightarrow 1000x = 782.2222\dots \text{-----(ii)}$$

Subtracting equation (i) from (ii), we get :

$$\Rightarrow 900x = 782.2222 - 78.2222 = 704$$

$$\Rightarrow x = \frac{704}{900}$$

\Rightarrow Ans - (A)

Question 97

The selling price of the article is Rs.1,764 after a successive discounts of 10% and 20%. If the cost price is 50% of the marked price, then what is the cost price. (in Rs)

A 1,225

B 1,235

C 1,245

D 1,255

Answer: A

Explanation:

Let marked price = Rs. $100x$

After 1st discount of 10%, selling price = $100x - \left(\frac{10}{100} \times 100x\right) = Rs. 90x$

Similarly, after 2nd discount of 20%, selling price = $90x - \left(\frac{20}{100} \times 90x\right) = Rs. 72x$

According to ques, $\Rightarrow 72x = 1764$

$$\Rightarrow x = \frac{1764}{72} = 24.5$$

\therefore Cost price = $\frac{50}{100} \times 100 \times 24.5 = Rs. 1225$

\Rightarrow Ans - (A)

Question 98

The average weight of 87 Notebooks in a box is 8.7 kg. When a new Notebook is added to the box the average goes to 8.8 kg. Find the weight of the new Notebook. (in kg)

A 17.7

B 17.6

C 17.5

D 17.8

Answer: C

Explanation:

Average weight of 87 Notebooks in a box = 8.7 kg

$$\Rightarrow \text{Total weight} = 87 \times 8.7 = 756.9 \text{ kg}$$

Let weight of new book = x kg

$$\Rightarrow \text{New average} = \frac{756.9+x}{88} = 8.8$$

$$\Rightarrow 756.9 + x = 88 \times 8.8 = 774.4$$

$$\Rightarrow x = 774.4 - 756.9 = 17.5 \text{ kg}$$

\Rightarrow Ans - (C)

Question 99

A train of length 135 m travels at a speed of 54 kmph crosses a bridge in 27 seconds. Find the length of the bridge. (in m)

- A 270
- B 272
- C 274
- D 268

Answer: A

Explanation:

Speed of train = 54 kmph = $54 \times \frac{5}{18} = 15$ m/s

Let length of bridge = x m

Using, speed = distance/time

$$\Rightarrow 15 = \frac{135+x}{27}$$

$$\Rightarrow 135 + x = 27 \times 15 = 405$$

$$\Rightarrow x = 405 - 135 = 270 \text{ m}$$

\Rightarrow Ans - (A)

Question 100

A sum of Rs.7,800 invested under simple interest at rate of 11% p.a. If the amount after 5 years is been withdrawn and half of the total amount is been invested in Share market. Find the remaining amount. (in RS)

- A 6,245
- B 6,045
- C 6,145
- D 6,345

Answer: B

Explanation:

Principal sum = Rs. 7800

Rate of interest = 11% and time period = 5 years

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

$$= \frac{7800 \times 11 \times 5}{100} = \text{Rs. } 4290$$

Thus, total amount after 5 years = $\text{Rs. } (7800 + 4290) = \text{Rs. } 12,090$

\therefore Remaining amount after half of the total amount is been invested in Share market = $\frac{12090}{2} = \text{Rs. } 6045$

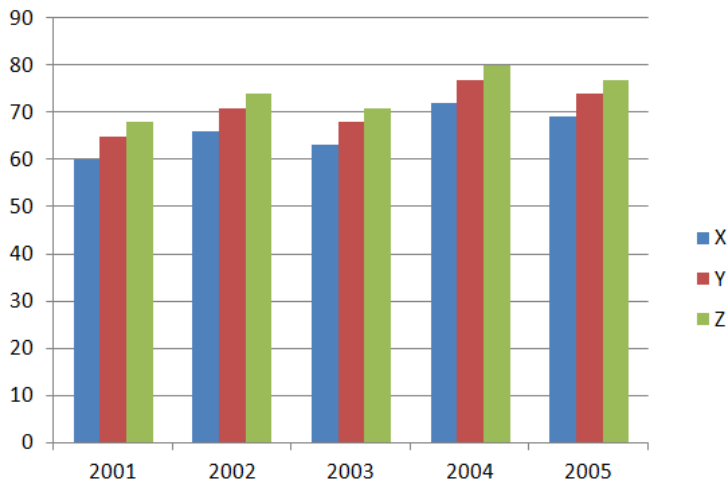
\Rightarrow Ans - (B)

Question 101

Directions:

The bar graph below shows the data of the production of paper (in thousands) by three different companies X, Y and Z over the years (2001-2005)

What is the difference between the production of company Z in 2001 and company Y in 2002? (in thousands)



A 6

B 4

C 5

D 3

Answer: D

Explanation:

Production of company Z in 2001 (in thousands) = 68

Production of company Y in 2002 (in thousands) = 71

=> Required difference = $71 - 68 = 3$

=> Ans - (D)

Question 102

Anitha walks a certain distance at $(\frac{9}{10})$ th of her usual speed and takes 24 minutes more than the usual time. Find the usual time taken. (in minutes)

A 621

B 261

C 126

D 216

Answer: D

Explanation:

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

=> New speed = 9 m/min and new time = $(t + 24)$ min

Also, speed is inversely proportional to time.

$$\Rightarrow \frac{10}{9} = \frac{t+24}{t}$$

$$\Rightarrow 10t = 9t + 216$$

$$\Rightarrow 10t - 9t = t = 216$$

∴ Usual time taken = **216 minutes**

⇒ Ans - (D)

Question 103

A sum of money is to be distributed among Ankit, Babu, Christo and David in the proportion of 5:4:3:2. If Christo gets Rs.114 more than David, what is Babu's share? (in Rs)

A 456

B 453

C 454

D 455

Answer: A

Explanation:

Let amount received by Ankit, Babu, Christo and David be $5x$, $4x$, $3x$ and $2x$ respectively.

According to ques, $\Rightarrow 3x - 2x = 114$

$$\Rightarrow x = 114$$

∴ Babu's share = $4 \times 114 = \text{Rs. } 456$

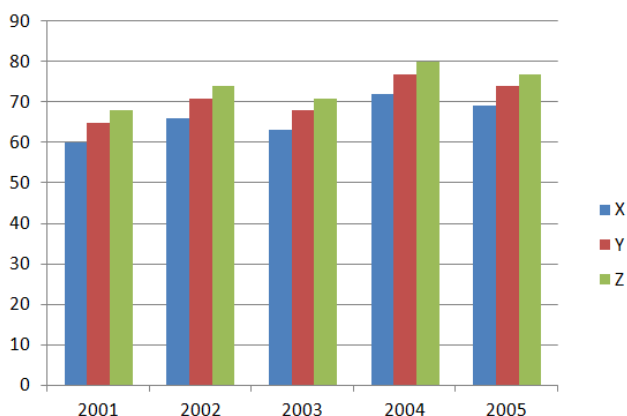
⇒ Ans - (A)

Question 104

Directions:

The bar graph below shows the data of the production of paper (in thousands) by three different companies X, Y and Z over the years (2001-2005)

What is the percentage increase in the production of the company X from 2002 to 2005? (in % - round off to 2 decimal places)



A 4.77

B 4.44

C 4.55

D 4.66

Answer: C

Explanation:

Production of paper (in thousands) by company X in 2002 = 66

Production of paper (in thousands) by company X in 2005 = 69

$$\Rightarrow \% \text{ increase in production} = \frac{(69-66)}{66} \times 100$$

$$= \frac{3}{66} \times 100 = \frac{50}{11} \approx 4.55\%$$

\Rightarrow Ans - (C)

Question 105

Which of the following number is divisible by 24?

A 146604

B 166440

C 146600

D 166044

Answer: B

Explanation:

Numbers which are divisible by 24, must first be divisible by 3 and also by 8. Checking divisibility by 8.

146604 and 166044 are not divisible by 8, so of the middle two numbers, only second number is divisible by 3.

Thus, **166440** is divisible by 24.

\Rightarrow Ans - (B)

Question 106

Simplify:

$$((4^2)^3 \div 16^2) \times ([20 - 4] \div 4)$$

A 68

B 64

C 56

D 128

Answer: B

Explanation:

$$\text{Expression : } ((4^2)^3 \div 16^2) \times ([20 - 4] \div 4)$$

$$= \left(\frac{4^6}{4^4}\right) \times \left(\frac{16}{4}\right)$$

$$= 4^2 \times 4 = 64$$

\Rightarrow Ans - (B)

Question 107

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.180. If the rate of interest is 6% p.a. then find the amount invested. (in Rs.)

- A 50,000
- B 55,000
- C 52,500
- D 47,500

Answer: A

Explanation:

Rate of interest = 6% and time period = 2 years

Let principal sum = Rs. P

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

$$\Rightarrow P\left(\frac{6}{100}\right)^2 = 180$$

$$\Rightarrow P = 180 \times \frac{10000}{36}$$

$$\Rightarrow P = \text{Rs. } 50,000$$

\Rightarrow Ans - (A)

Question 108

The amount doubles itself under Compound interest in 7 years. In how many years will it become 64 times of it? (in years)

- A 42
- B 51
- C 48
- D 45

Answer: A

Explanation:

The amount gets doubled in 7 years.

In case of compound interest, the amount will become 2^n times in $7n$ years

$$\Rightarrow \text{Final amount} = 64 = (2)^6$$

Thus, after $7 \times 6 = 42$ years, amount will become 64 times.

\Rightarrow Ans - (A)

Question 109

A Box contains three different types of old coins in the ratio 3:5:7. 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.2352, find the number of coins values 10 rupees

- A 162
- B 164
- C 166
- D 168

Answer: D

Explanation:

Let number of 1 rupee, 5 rupees and 10 rupees respectively be $3x$, $5x$ and $7x$

$$\text{Total amount} = (1 \times 3x) + (5 \times 5x) + (10 \times 7x) = 2352$$

$$\Rightarrow 3x + 25x + 70x = 2352$$

$$\Rightarrow x = \frac{2352}{98} = 24$$

$$\therefore \text{Number of 10 rupees coins} = 7 \times 24 = 168$$

\Rightarrow Ans - (D)

Question 110

What will be the remainder when 36367 is divided by 9?

A 6

B 5

C 8

D 7

Answer: D

Explanation:

Sum of digits of 36367 = $3+6+3+6+7=25$

Now, when 25 is divided by 9, $\Rightarrow 25 = 9 \times 2 + 7$

Thus, remainder = 7

\Rightarrow Ans - (D)

Question 111

The sum of three numbers is 216. If the ratio of the first to the second is 2:3 and that of the second to the third is 3:4, then the second number is

A 75

B 72

C 74

D 73

Answer: B

Explanation:

Let the three numbers respectively be $2x$, $3x$ and $4x$

$$\text{Sum} = 2x + 3x + 4x = 9x = 216$$

$$\Rightarrow x = \frac{216}{9} = 24$$

$$\therefore \text{Second number} = 3 \times 24 = 72$$

\Rightarrow Ans - (B)

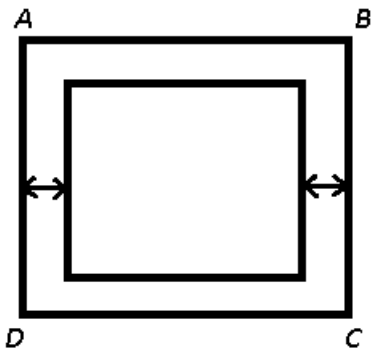
Question 112

Total area of the square Glass Piece is 841cm^2 , which is placed on the top of a table. The width between the edge of the table and the edge of the glass piece is 11cm wide. Find the length of the table. (in cm)

- A 47
- B 45
- C 49
- D 51

Answer: D

Explanation:



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

$$\text{Side of glass} = \sqrt{841} = 29 \text{ cm}$$

$$\text{Width between glass and table} = 11 \text{ cm}$$

$$\Rightarrow \text{Side of table} = 11 + 29 + 11 = 51 \text{ cm}$$

\Rightarrow Ans - (D)

Question 113

Find the value of X:

$$\sqrt{(596 - X)} = \sqrt{(598 - \sqrt{484})}$$

- A 54
- B 28
- C 20
- D 49

Answer: C

Explanation:

$$\text{Expression: } \sqrt{(596 - X)} = \sqrt{(598 - \sqrt{484})}$$

$$\Rightarrow (596 - X) = (598 - 22)$$

$$\Rightarrow X = 596 - 598 + 22 = 20$$

\Rightarrow Ans - (C)

Question 114

A Gift box contains 10 bangles, of which average weight of first 4 bangles is 71 grams and the average weight of remaining 6 bangles is 72 grams. Find the average weight of the total bangles. (in grams)

- A 71.6
- B 73.6
- C 74.6
- D 72.6

Answer: A

Explanation:

Average weight of first 4 bangles = 71 grams

=> Weight of first 4 bangles = $71 \times 4 = 284$ grams

Similarly, weight of remaining 6 bangles = $72 \times 6 = 432$ grams

∴ Average weight of the total bangles = $\frac{284+432}{10} = 71.6$ grams

=> Ans - (A)

Question 115

Simplify:

$$\sqrt{(1190 - \sqrt{(1181 - \sqrt{(601 + \sqrt{576}))})})}$$

- A 24
- B 34
- C 42
- D 37

Answer: B

Explanation:

Expression : $\sqrt{(1190 - \sqrt{(1181 - \sqrt{(601 + \sqrt{576}))})})}$

$$= \sqrt{(1190 - \sqrt{(1181 - \sqrt{(601 + 24)})})}$$

$$= \sqrt{(1190 - \sqrt{(1181 - \sqrt{625})})}$$

$$= \sqrt{(1190 - \sqrt{(1181 - 25)})}$$

$$= \sqrt{(1190 - \sqrt{1156})}$$

$$= \sqrt{(1190 - 34)}$$

$$= \sqrt{(1156)} = 34$$

=> Ans - (B)

Question 116

In a mixture of 168 litres, the ratio of milk and water is 3:4. If this ratio is to be 3:5, then the quantity of water to be further added is. (in Litres)

A 26

B 24

C 25

D 23

Answer: B

Explanation:

Quantity of milk in 168 litres mixture = $\frac{3}{(3+4)} \times 168 = 72$ litres

=> Quantity of water = $168 - 72 = 96$ litres

Let x litres of water is to be added.

$$\Rightarrow \frac{72}{96+x} = \frac{3}{5}$$

$$\Rightarrow 360 = 288 + 3x$$

$$\Rightarrow 3x = 360 - 288 = 72$$

$$\Rightarrow x = \frac{72}{3} = 24$$

∴ Quantity of water to be further added is **24 litres**.

=> Ans - (B)

Question 117

A shopkeeper sells a product at the rate of Rs.1,539 and earns a profit of 14%. Find the amount which is equal to half of the cost price of the product. (in Rs)

A 695

B 675

C 685

D 650

Answer: B

Explanation:

Selling price = Rs. 1539 and profit % = 14%

$$\Rightarrow \text{Cost price} = \frac{1539}{(100+14)} \times 100$$

$$= 27 \times 50 = \text{Rs. } 1350$$

∴ Amount which is equal to half of the cost price of the product = $\frac{1350}{2} = \text{Rs. } 675$

=> Ans - (B)

Question 118

In a support project of an English based company, there are 217 male and 217 female employees. The average productivity of all the employees is 75 calls per day. The average calls attended by a male employee is 75 calls per day. What is the average calls attended per day by a female employee?

- A 76
- B 75
- C 77
- D 74

Answer: B

Explanation:

Since, there are an equal number of male and female employees in the company, and also the average productivity is 75 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 = **75**

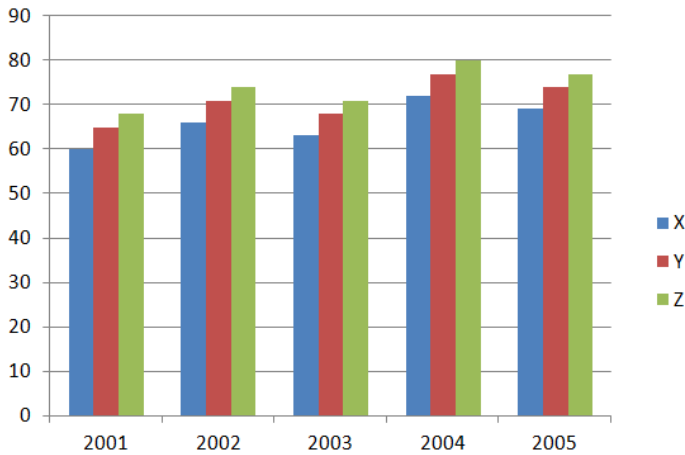
=> Ans - (B)

Question 119

Directions:

The bar graph below shows the data of the production of paper (in thousands) by three different companies X, Y and Z over the years (2001-2005)

The average production for the five years was minimum for which company?



- A X
- B Y
- C Z
- D None of these

Answer: A

Explanation:

Total production of company :

$$X = 60 + 66 + 62 + 71 + 69 = 328$$

$$Y = 65 + 70 + 68 + 76 + 73 = 352$$

$$Z = 67 + 73 + 70 + 80 + 76 = 366$$

Thus, average production for the five years was minimum for company **X**.

=> Ans - (A)

Question 120

A man completes a journey in 7 hours. He travels first half of the journey at the rate of 20 kmph and second half at the rate of 30 kmph. Find the total distance of the entire journey. (in km)

A 174

B 172

C 168

D 170

Answer: C

Explanation:

Let total distance = $2d$ km

Using, time = distance/speed

$$\Rightarrow \frac{d}{20} + \frac{d}{30} = 7$$

$$\Rightarrow \frac{30d+20d}{600} = 7$$

$$\Rightarrow 5d = 7 \times 60$$

$$\Rightarrow d = 7 \times 12 = 84$$

\therefore Total distance of the entire journey = $2 \times 84 = 168$ km

=> Ans - (C)

