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Assignment -4

Section -A

Q1 The average of 5 terms is 50. If the first 4 terms are 45, 142, 119 and 84, what will be the last term?

C>

Q2 A train travelling at 60 km/h crosses a man in 6 seconds. What is the length of the train?

a>

Q3 A truck goes from Haryana to Bangalore with an average speed of 60 km/hr. The journey takes 30 hrs. It returns from Bangalore to Haryana on the same road with an average speed of 40 km/hr. What is the average speed of the truck during the roundtrip

a>

Q4 The average monthly income of P and Q is ₹5050. The average income of Q and R is ₹6250 and the average monthly income of P and R is ₹5200. The monthly income of P is

b>

Q5 The average weight of 16 boys in a class is 50.25 kg and that of the remaining 8 boys is 45.15 kg. Find the average weights of all the boys in the class

a>

Q6 If the number of students passing an examination be considered a criteria for comparison of difficulty level of two examinations, which of the following

statements is true in this context ?

c>

Q7 How many students are there in class IX in the school?

d>

Q8 Which section has the maximum pass percentage in at least one of the two examinations?

d>

Q9 Which section has the maximum success rate in annual examination ?

a>

Q10 Which section has the minimum failure rate in annual examination

d>

Section - B

Q1 Alfred buys an old scooter for ₹ 4700 and spends ₹ 800 on its repairs. If he sells the scooter for ₹ 5800, his gain percent is

Total cost price = 4700 + 800 = 5500

Selling price = 5800

Profit = 5800 - 5500 = 300

profit % $\Rightarrow \frac{300}{5500} \times 100 = \frac{60}{11} = 5\frac{5}{11}\%$

b> $5\frac{5}{11}\%$

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Q2 The cost price of 20 articles is the same as the selling price of x articles. If the profit is 25%, then the value of x is

Let C.P of each particle be ₹1

C.P of x articles = ₹x

S.P of x articles = ₹20

Profit = ₹$(20-x)$

$$\frac{20-x}{x} \times 100 = 25 \Rightarrow 2000 - 100x = 25x$$

$$125x = 2000$$

$$x = 16$$

b) 16

Q13 The average temperature of Wednesday Thursday and Friday is 40°C. The average of Thursday, Friday and Saturday is 41°C. If temperature on Saturday is 42°C, what was the temperature on Wednesday

$$\frac{W+T+F}{3} = 40^\circ C \quad ; \quad \frac{T+F+S}{3} = 41^\circ C$$

$W+T+F = 120$ —(ii)

$T+F+42 = 123$

$T+F = 81$ —(i)

put i in ii

$W + 81 = 120$

$W = 120 - 81 = 39^\circ C$

a) 39°C

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Q14 The average of first five multiples of 9 is

$$\frac{9+18+27+36+45}{5} = \frac{135}{5}$$

$$= 27$$

b.) 27

Section - C

Q1 A grocer purchased 80 kg of sugar at ₹13.50 per kg and mixed it with 120 kg sugar at ₹16 per kg. At what rate should he sell the mixture to gain 16%.

cost of 80 kg sugar at ₹13.50/kg = ₹1080

cost of 120 kg sugar at ₹16/kg = ₹1920

Total C.P. = ₹3000

Profit ⇒ $\frac{16}{100} \times 3000 = ₹480$

S.P. = C.P. + profit

= 3000 + 480 = ₹3480

S.P. per kg = $\frac{3480}{200} = ₹17.40/kg$

c.) ₹17.40/kg

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Q2 A sells an article to B with a profit of 10%. B sells the article back to A at a loss of 10%. In this transaction:

Let CP was 100 for A

A sells article to B at 10% profit

CP for B = 100 + 10% of 100 = 110

Now B sells it to A again with loss of 10%.

Now, CP for A this time = 110 - 10% of 110 = 99

A makes profit = 110 - 99 = 11

$$\% \text{ profit for A} = \frac{11 \times 100}{100} = 11\%$$

b.) A makes a profit of 11%.

Section - D

Q1 The average monthly income of P and Q is ₹5050. The average monthly income of Q and R is ₹6250 and the average monthly income of P and R is ₹5200. The monthly income of P is

$$\frac{P+Q}{2} = 5050 \Rightarrow P+Q = 10100$$

$$\frac{Q+R}{2} = 6250 \Rightarrow Q+R = 12500$$

$$P+Q = 10100$$
$$-\ Q+R = 12500$$
$$P-R = -2400 \quad \text{---(i)}$$

$$\frac{P+R}{2} = 5200 \Rightarrow P+R = 10400 \quad \text{---(ii)}$$

from (i) & (ii)

$2P = 8000$
$P = 4000$

b.> 4000

Q2 A man covers 3 equal distances with speed 5 km/h, 10 km/h and 15 km/h. Then find its average speed

Since the distances are equal, we can take the average directly.

$$\therefore \frac{5+10+15}{3} = \frac{30}{3} = 10 \text{ km/h}$$

c.> 10 km/h