

* Mock #03 (CSS-2025)

* General Science and Ability

Section - II

Q8(d) Distribute Rs 4320 among Zain, --- gets seven parts.

Solution:-

Given that:-

$$\begin{aligned} \text{Zain} : \text{Aslam} : \text{Ashraf} \\ 2 : 3 : 7 \end{aligned}$$

Distributed = Rs 4320

Amount

$$\text{Total parts} = 2 + 3 + 7 = 12 \text{ parts.}$$

As we know that

$$\text{Share} = \frac{\text{Given Ratio}}{\text{Total Parts}} \left(\begin{array}{l} \text{what is to be} \\ \text{distributed} \end{array} \right)$$

By putting values, we get:-

$$\text{Zain's Share} = \frac{2}{12} \left(\frac{4320}{360} \right)$$

$$= \boxed{\text{Rs } 720 \text{/-}}$$

$$\text{Aslam's Share} = \frac{3}{12} \left(\frac{4320}{360} \right)$$

$$= \boxed{\text{Rs } 1080 \text{/-}}$$

$$\text{Ashraf's share} = 7 \left(\frac{360}{4320} \right)$$

$$= \boxed{\text{Rs } 2520}$$

Q2c) What 7m?

Solution:-

Given that:-

$$\text{radius} = r = 7\text{m}$$

Find:-

Surface Area of a sphere = ?

Volume of a sphere = ?

Formula:-

$$\text{Surface Area of a sphere} = 4\pi r^2$$

$$\text{Volume of a sphere} = \frac{4}{3}\pi r^3$$

After putting values in the above two formulas, we get:-

$$\therefore \pi = 3.14$$

$$\text{Surface area of a sphere} = 4 \times 3.14 \times (7)^2$$

$$= 4 \times 3.14 \times 49$$

$$\text{Surface area of a sphere} = \boxed{615.44 \text{m}^2}$$

$$\text{Volume of a sphere} = \frac{4}{3} \times 3.14 \times (7)^3$$

$$= 1.33 \times 3.14 \times 343$$

$$\text{Volume of a sphere} = \boxed{1432.44 \text{m}^3}$$

(b) Hassan ----- of each.

Solution:-

From the above we extract the following equations.

$$\text{Nasir's pocket money} = N \rightarrow \text{eq (1)}$$

$$\text{Akbar's pocket money} = Ak = 3N \rightarrow \text{eq (2)}$$

$$\text{Ali's pocket money} = \overset{\text{Ali}}{S}(Ak) \Rightarrow S(3N)$$

$$\text{Ali's pocket money} = 15N \rightarrow \text{eq (3)}$$

$$\text{Hassan's pocket money} = H = \frac{1}{3}(Au)$$

$$= \frac{1}{3}(15N)$$

$$\text{Hassan's pocket money} = H = 5N \rightarrow \text{eq (4)}$$

$$\text{Shahbaz's pocket money} = S = N + Ali$$

$$S = N + 15N$$

$$\text{Shahbaz's pocket money} = S = 16N \rightarrow \text{eq (5)}$$

Given that:-

$$\text{Total Money} = \text{Rs } 8000/-$$

$$\text{Total money} = N + Ak + Ali + H + S$$

$$8000 = N + 3N + 15N + 5N + 16N$$

$$8000 = 40N$$

$$8000 = N$$

$$\frac{8000}{40} = N$$

$$N = 200$$

Putting the value of N in the above equations we get:-

$$\text{Nasir's pocket money} = \boxed{N = \text{Rs } 200/-}$$

$$\text{Akbar's pocket money} = 3N$$

$$= 3(200)$$

$$\boxed{\text{Akbar's pocket money} = \text{Rs } 600/-}$$

$$\text{Ali's pocket money} = 15N$$

$$= 15(200)$$

$$\boxed{\text{Ali's pocket money} = \text{Rs } 3000/-}$$

$$\text{Haseem's pocket money} = 5N$$

$$= 5(200)$$

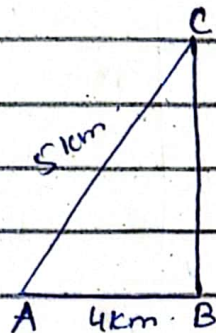
$$\boxed{\text{Haseem's pocket money} = \text{Rs } 1000/-}$$

$$\text{Shahbaz's pocket money} = 16(200)$$

$$\boxed{\text{Shahbaz's pocket money} = \text{Rs } 3200/-}$$

Q (a) A man point?

Solution:-



Given that:-

$$\text{Base} = b = AB = 4 \text{ km}$$

$$\text{Hypotenuse} = h = AC = 5 \text{ km}$$

As we know that:-

$$(h)^2 = (b)^2 + (A)^2 \rightarrow \text{eq (1)} \quad \because A = \text{Attitude}$$

BC = ?

$$(AC)^2 = (AB)^2 + (BC)^2$$

By using eq (1)

After putting values we get

$$(5)^2 = (4)^2 + (BC)^2$$

$$25 = 16 + (BC)^2$$

$$25 - 16 = (BC)^2$$

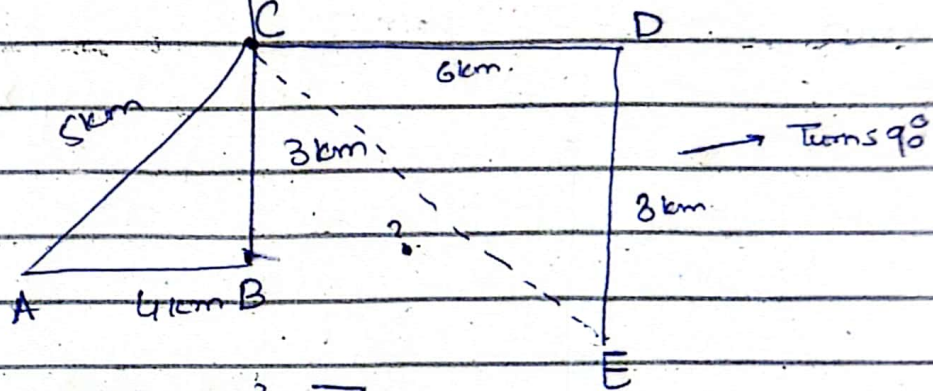
$$9 = (BC)^2$$

Taking square root on both sides

$$\sqrt{9} = (\sqrt{BC})^2$$

3 km = BC

Starting point
for 2nd
case



Using Pythagoras' Theorem.

$$(CE)^2 = (CD)^2 + (DE)^2$$

$$(CE)^2 = (6)^2 + (8)^2$$

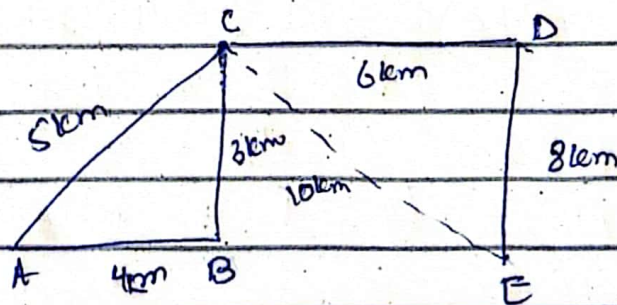
$$(CE)^2 = 36 + 64$$

$$(CE)^2 = 100$$

Taking square root on both sides.

$$\sqrt{(CE)^2} = \sqrt{100}$$

$$CE = 10 \text{ km}$$



So, It is 10 km far from his starting point

Total distance = ?

$$\begin{aligned} \text{Total distance} &= AB + AC + BC + CD + DE \\ &= 4 + 5 + 3 + 6 + 8 \end{aligned}$$

Total Distance	26km
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Q6 (a) Arrange the jumbled words:

(i) teninsuperted

Ans: - Superintendent

(ii) hweti

Ans: - white

(b) A pair final price ?

Solution: - Given that:

$$\text{original cost} = 80 \$$$

$$\text{Discount Rate} = 15\%$$

$$\text{Sale Tax} = 10\%$$

Find:-

Final Price = ?

As we know:-

$$\text{Discount} = \text{original cost} \times \text{Discount Rate}$$

$$\text{Discount} = 80 \times \frac{15}{100}$$

$$= 80 \times 0.15$$

Discount	=	12\$
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$$\text{Sale price} = \text{original cost} - \text{Discount}$$

$$\text{Sale price} = 80 - 12$$

$$\text{Sale price} = 68 \text{ \pounds}$$

$$\text{Tax paid} = 68 \text{ times } 10\%$$

$$= 68 \times \frac{10}{100}$$

$$= 68 \times 0.1$$

$$\text{Tax paid} = 6.8$$

$$\text{Final Price} = 68 + 6.8$$

$$\boxed{\text{Final Price} = 74.8 \text{ \pounds}}$$

Q6(a) In a bag 'B' blocks?

Solution:-

Given that:-

$$A : B : C : D$$

$$4 : 7 : 3 : 1$$

$$\text{Total parts} = 15 \text{ parts.}$$

$$\text{'A' blocks} = \frac{4}{15} (n) \rightarrow \text{eq (1)}$$

$$\text{'B' blocks} = \frac{7}{15} (n) \rightarrow \text{eq (2)}$$

$$\text{'C' blocks} = \frac{3}{15} (n) \rightarrow \text{eq (3)}$$

$$\text{'D' blocks} = \frac{1}{15} (n) \rightarrow \text{eq (4)}$$

$$50 + C = A \rightarrow \text{eq (5)}$$

After putting values we get:-

$$50 + \frac{3x}{15} = \frac{4x}{15}$$

$$50 = \frac{4x}{15} - \frac{3x}{15}$$

$$50 = \frac{4x - 3x}{15}$$

$$50 = \frac{x}{15}$$

$$x = 50 \times 15$$

$$x = 750$$

$$\begin{aligned} \text{'B' blocks} &= \frac{7(x)}{15} \\ &= \frac{7(750)}{15} \end{aligned}$$

$$\text{'B' blocks} = 350$$

The number of 'B' blocks is 350

Q10) A train ----- arrive?

Solution:-

Given that:-

$$\text{Distance} = d = 42 \text{ km}$$

$$\text{Average speed} = s = 36 \text{ km/hr}$$

$$\text{Travel Time} = \frac{\text{Distance}}{\text{speed}}$$

$$= \frac{42}{36}$$

$$\text{Travel Time} = 1.17 \text{ hours}$$

Convert 1.17 hours to minutes.

$$= \frac{1.17}{60}$$

approx = 10 minutes.

Departure Time = 4 pm

Arrival Time = Adding 1 hour and 10 minutes
to the departure time =

$$= 4h + 1h + 10min$$

$$= 5h + 10min$$

$$= 5:10$$

The train arrives at 5:10 pm.