

Question - 08

Follow a step-by-step method to break down complex problems into manageable parts.

Part (A)

Provide comprehensive answers by giving clear, concise, and detailed explanations.

Keep length of the all questions same.

$$x + y + z = 15 \quad \text{--- (1)}$$

$$x + z = 12 \quad \text{--- (2)}$$

$$-x + z = 2 \quad \text{--- (3)}$$

$$\begin{array}{r} +x + z = 12 \\ -x + z = 2 \\ \hline 2z = 10 \end{array}$$

$$\boxed{x = 5} \Rightarrow \text{Putting in eq (2)}$$

$$5 + z = 12$$

$$z = 12 - 5$$

$$\boxed{z = 7} \rightarrow \text{Putting in eq (1)}$$

Putting values of 'z' and 'x' in (1)

$$5 + y + 7 = 15$$

$$y + 12 = 15$$

$$y = 15 - 12$$

$$\boxed{y = 3}$$

So, the 3-digit number is

537.

Part (B)

Given,

Total persons = 18

Total no. of slices = 18

Ratio of 3 pizzas = 2:3:4

Weight of 1 slice = 40 gm

Price of smaller pizza = 320 rupees

Solution:

$$2x + 3x + 4x = 18$$

$$9x = 18$$

$$\boxed{x = 2}$$

For Small pizza = $2x = 2 \times 2 = 4$ slicesFor Medium pizza = $3x = 3(2) = 6$ slicesFor Large pizza = $4(2) = 4(2) = 8$ slices

Price of smaller pizza = Rs. 320

Weight of smaller pizza = $4 \times 40 \text{ gm}$
= 160 gmPrice of medium pizza = 80×6

= 480 Rupees

∴ Price of 1 slice = Rs. 80

Weight of medium pizza = $40 \times 6 = 240 \text{ gm}$

price of large pizza = 8 x 80

= Rs. 640

weight of large pizza = 40 x 8

= 320 gm.

→ Total weight = 320 + 100 + 290

= 720 gm.

→ Total price = 320 + 480 + 640

= Rs. 1440.

Part (c)

Given:

Diameter = d = 6 cm.

To find:

Area = ?

Circumference = ?

Formula:

$$\text{Area} = \pi r^2$$

$$\text{Circumference} = 2\pi r$$

Solution:

$$r = \frac{d}{2} = \frac{6}{2} = 3 \text{ cm}$$

$$\text{Area} = \pi r^2 = \left(\frac{22}{7}\right) (3)^2$$

$$= \left(\frac{22}{7}\right) (9)$$

$A = 28.28 \text{ cm}^2$

$$\begin{array}{r} 28.28 \\ 7 \overline{) 198} \\ \underline{14} \\ 58 \\ \underline{56} \\ 20 \\ \underline{14} \\ 60 \\ \underline{56} \\ 4 \end{array}$$

circumference = $2\pi r$

$= 2 \left(\frac{22}{7} \right) \left(\frac{3}{2} \right)$

$C = 18.857 \text{ cm}$

$$\begin{array}{r} 28.857 \\ 7 \overline{) 132} \\ \underline{7} \\ 62 \\ \underline{56} \\ 60 \\ \underline{56} \\ 40 \\ \underline{35} \\ 50 \\ \underline{49} \\ 1 \end{array}$$

Part (d)

(i) Missing number = 354

$\Rightarrow 13, 24, 46, 90, 178, 354$
 $+11 \quad +22 \quad +44 \quad +88 \quad +176$

(ii) Missing number = 30

$\Rightarrow 5, 6, 9, 14, 21, 30$
 $+1 \quad +3 \quad +5 \quad +7 \quad +11$

Question - 8

Part (i)

Given,

length of classroom = 15 ft

width = 16% of length

To find,

Dimensions of room = ?

Solution.

$$\text{width} = \frac{3}{8} \times 15$$

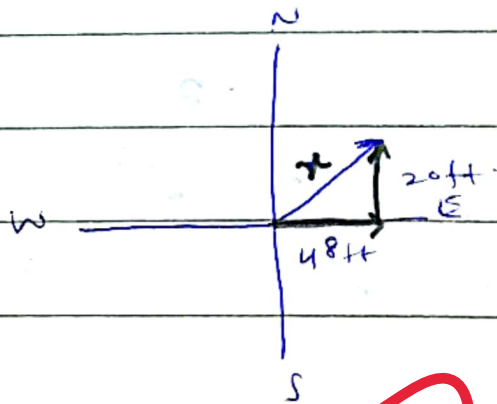
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$$\text{width} = 9 \text{ ft}$$

⇒ The dimensions of room are 15 ft by 9 ft.

Part (b)

Given



using Pythagoras theorem

$$c^2 = a^2 + b^2$$

$$x^2 = (48)^2 + (20)^2$$

$$x^2 = 2304 + 400$$

$$x^2 = 2704$$

$$\sqrt{x^2} = \sqrt{2704}$$

$$= \sqrt{2^2 \times 2^2 \times 13^2}$$

$$= 2 \times 2 \times 13$$

$$C = 54 \text{ ft}$$

Veena would have run 54ft straight.

part (c)

Given.

Average marks of ⁴⁰ students = 52.15

Solution

Actual Average after adding

right marks

$$\text{Total incorrect marks} = 52.15 \times 40$$

$$= 2086$$

$$\text{Correct marks} = 2086 + 49 + 85$$

$$= 2122$$

$$\text{correct Average} = \frac{2122}{40}$$

$$\text{Correct Average} = 53.05$$

Part (d)

Given:

no. of people like vegetable pizza = 37

no. of people like chicken pizza = 25

no. of people like neither = 3

Solution:

$$\text{Total people} = 37 + 25 + 3 = 65$$

Either no. of people like chicken or vegetable pizza = $65 - 3 = 62$

Probability (chicken pizza) = $\frac{\text{no. of ways of occurrence}}{\text{Total possible events}}$

$$= \frac{5}{65} = \frac{5}{13}$$

So, the probability of people like chicken pizza is $\frac{5}{13}$.