Question — 08

Part (A)

Given,

$$x + y + z = 15 \quad \text{— (1)}$$

$$x + z = 12 \quad \text{— (2)}$$

$$-x + z = 2 \quad \text{— (3)}$$

So;

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

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

$$5 + z = 12$$

$$z = 12 - 5$$

$\boxed{z = 7}$ -> 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.

Day:

Part (B)

Given,

Total persons = 18

Total no. of slices = 18

Ratios of 3 pizzas = 2:3:4

weight of 1 slice = 40 gm

price of Smaller pizza = 320 rupees

Solution:

Let,

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

$$9x = 18$$

$$\boxed{x = 2}$$

For Small pizza = $2x = 2 \times 2 = 4$ slices.

For Medium pizza = $3x = 3(2) = 6$ slices.

For large pizza = $4(x) = 4(2) = 8$ slices.

Price of smaller pizza = RS. 320

weight of smaller pizza = 4×40 gm

= 160 gm.

price of medium pizza = 80×6

= 480 Rupees.

∵ price of 1 slice = Rs 80

weight of medium pizza = $40 \times 6 = 240$ gm

Price of large pizza = 8 × 80

= Rs. 640

weight of large pizza = 40 × 8

= 320 gm.

→ Total weight = 320 + 160 + 240

= 720 gm.

→ Total price = 320 + 480 + 640

= Rs. 1440.

Part (c)

Given:

Diameter = d = 6 cm.

To find.

Area = ?

Circumference = ?

formula.

Area = πr^2.

Circumference = $2\pi r$.

Solution.

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

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

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

$A = 28.28\ cm^2$

$7 \overline{)198}$ → 28.28

14

58

56

20

14

60

56

4

circumference $= 2\pi r$

$= 2\left(\frac{22}{7}\right)\left(\frac{3}{1}\right)$

$C = 18.857\ cm$

$7 \overline{)132}$ → 18.857 cm

7

62

56

60

56

40

35

50

49

1

Part (d)

(i) Missing Number = 354

⇒ 13, 24, 46, 90, 178, 354

+11 +22 +44 +88 +176

(ii) Missing Number = 30

⇒ 5, 6, 9, 14, 21, 30

+1 +3 +5 +7 +11

Question — 8

Part (a)

Given,

length of classroom = 15ft

width = 160% of length

To find,

Dimensions of room = ?

Solution.

$$\text{width} = \frac{135}{15}$$

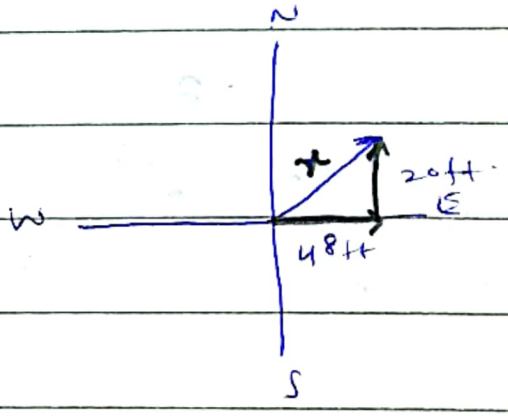
$$\text{width} = 9$$

width = 9 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 ft

Veena would have run 54ft straight.

Part (c)

Given:

Average marks of 40 students = 52.15

Solution

Actual Average after adding right marks

Total incorrect marks $= 52.15 \times 40$

$= 2086$

Correct marks $= 2086 + 49 + 85$

$= 2122$

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

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:

Total people = 37 + 25 + 3 = 65

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

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

$= \frac{25}{65} = \boxed{\frac{5}{13}}$

So, the probability of a people like chicken pizza is 5/13.