

Q No 7**(A)****Given data:-**

Total people = 100

Watch cricket = 65

Watch hockey = 40

Watch neither hockey nor cricket = 20

To Find:-

Number of people who watch both cricket and hockey = ?

Formula:-

$$\text{Both} = \text{Cricket} + \text{Hockey} - (\text{Total} - \text{Neither})$$

Solution:-

Number of People who watch both cricket and hockey = N

$$\text{Total who watch at least one} = 100 - 20 = 80$$

$$N = C + H - (T - N')$$

$$N = 65 + 40 - (100 - 20)$$

$$N = 65 + 40 - (80)$$

$$N = 65 + 40 - 80$$

$$\boxed{N = 25}$$

Answer:-

⇒ 25 people watch both cricket and hockey.

Q.7(B)**Given data:-**

$$\text{Width} = w$$

$$\text{length} = w + 4$$

$$\text{Perimeter} = 72\text{m}$$

$$\text{Depth} = 2.5\text{m}$$

To find:-

$$\text{Volume} = ?$$

Formula:-

Perimeter

$$2(l + w) = 72$$

$$V = l \times w \times h$$

Solution:-

$$\therefore l = w + 4$$

$$2(w + 4 + w) = 72$$

$$2(2w + 4) = 72$$

$$4w + 8 = 72$$

$$4w = 72 - 8$$

$$4w = 64$$

$$w = \frac{64}{4}$$

$$\boxed{w = 16\text{m}}$$

⇒ By putting width in length formula

$$\Rightarrow l = w + 4$$

$$l = 16 + 4$$

$$l = 20 \text{ m}$$

$$\text{Volume} = l \times w \times h$$

By putting values

$$V = 20 \times 16 \times 2.5$$

$$V = \frac{20^2 \times 16 \times 2.5}{10}$$

$$V = 32 \times 25$$

$$V = 800 \text{ m}^3$$

Answer:-

$$V = 800 \text{ m}^3$$

Q.7

(c)

Given data:-

Speed of train A = 60 km/h

Speed of train B = 40 km/h

Distance between two cities = 400 m

Both train starts at = $8:00 \text{ am}$

To Find:-

Time when both meet = ?

Solution:-

$$\text{Relative speed} = S_1 + S_2$$

$$S = 60 + 40$$

$$S = 100 \text{ km/h}$$

DAY: _____

DATE: _____

$$\text{Speed} = \frac{\text{distance}}{\text{Time}}$$

$$\text{Time} = \frac{\text{distance}}{\text{Speed}}$$

By putting values:

$$T = \frac{400}{100}$$

$$T = 4 \text{ hour}$$

They meet at $8:00 + 4h$

$$= 8:00 + 4h$$

$$= 12:00 \text{ noon}$$

$$T = 12:00 \text{ pm}$$

Q.7

(D)

Given data:

Let Father = F

Son = S

$$F + S = 75$$

To find:-

Current age:-?

Solution:-

Ten years later

$$F-10 = 4(S-10)$$

$$F-10 = 4S-40$$

$$F-4S = -40+10$$

$$F-4S = -30$$

$$F = -30+4S$$

$$\Rightarrow \mathbf{F = 4S-30}$$

As we know

$$F+S=75 \rightarrow (1)$$

By putting value of F in eq (1),

$$4S-30+S=75$$

$$5S-30=75$$

$$5S=75+30$$

$$5S=105$$

$$S = \frac{105}{5}$$

$$\boxed{S = 21 \text{ years}}$$

$$F+S=75$$

$$F+21=75$$

$$F=75-21$$

$$\boxed{F = 54 \text{ years}}$$

DAY: _____

DATE: _____

Answer:-

The current age of
father is **54 years** while son
is **21 years**.

Q. 8**(A)****Given data:-**

ROAD coded as UQ DG

To Find:-

Code for LAKE = ?

Solution:-

$$(18) R \xrightarrow{+3} U(21) = +3$$

$$(15) O \xrightarrow{+2} Q(17) = +2$$

$$(1) A \xrightarrow{+3} D(4) = +3$$

$$(4) D \xrightarrow{+3} G(7) = +3$$

Apply same pattern for LAKE

$$(12) L \xrightarrow{+3} O(15)$$

$$(1) A \xrightarrow{+2} C(3)$$

$$(11) K \xrightarrow{+3} N(14)$$

$$(5) E \xrightarrow{+3} H(8)$$

Answer:-So, **LAKE** is coded as**OCNH.**

QNO8

(b)

Given data:

The son of my
sister's husband is the father
of your son.

To find:-

How the woman related to
the man = ?

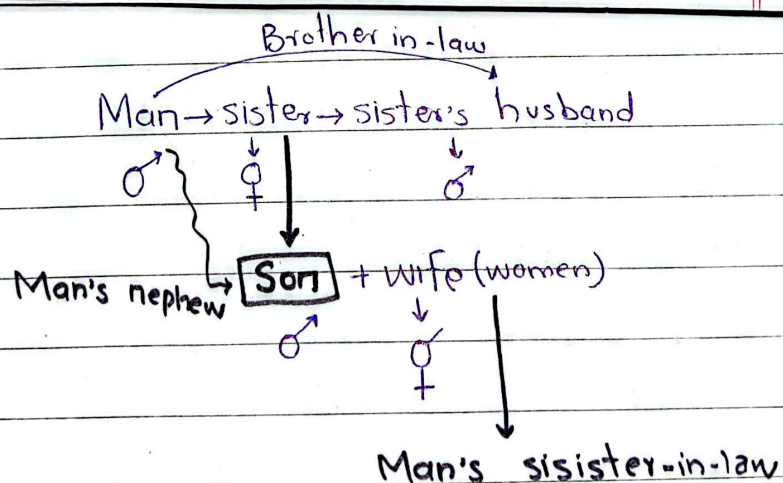
Explanation:-

Sister's husband son = nephew of
man

That same son = father of
woman's son

Answer:-

The woman is the
niece-in-law of the man



DAY: _____

DATE: _____

Q No 8

(c)

Given data:

(i) 4, 12, 6, 18, 9, 27, —

(ii) 1, 2, 6, 24, 120, —

To find:-

Next Number = ?

(i) Pattern

$$\begin{array}{ccccccc} 4, & 12, & 6, & 18, & 9, & 27 & \\ \underbrace{} & & \underbrace{} & & \underbrace{} & & \\ 4 \times 3 = 12 & & 6 \times 3 = 18 & & 9 \times 3 = 27 & & \\ & \downarrow & & \downarrow & & \downarrow & \\ & 12 \div 2 = 6 & & 18 \div 2 = 9 & & & \end{array}$$

$$4 \times 3 = 12$$

$$12 \div 2 = 6$$

$$6 \times 3 = 18$$

$$18 \div 2 = 9$$

$$9 \times 3 = 27$$

$$27 \div 2 = 13.5$$

Answer:-

(i) 4, 12, 6, 18, 9, 27, 13.5

Next number is 13.5.

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(ii) 1, 2, 6, 24, 120, —

$$2 \times 2 = 2$$

$$2 \times 3 = 6$$



$$6 \times 4 = 24$$

$$24 \times 5 = 120$$

$$120 \times 6 = 720$$

Answer:-

(iii) 1, 2, 6, 24, 120, 720

⇒ The next number is 720.

Q No 8

(D)

Given data

(i)  $P < Q$  but  $P > R$

(ii)  $S < T$  but  $S > Q$

(iii) Shortest = 150cm

(iv) Tallest = 180cm

To find:-

Third tallest person = ?

Maximum possible range = ?

Solution:-

$$R < P < Q < S < T$$

→ Tallest = T

→ Shortest = R

→ Second tallest = S

→ Third tallest = Q

Range

$$R = 180 - 150$$

$$R = 30 \text{ cm}$$

Answer: -

$\Rightarrow$  Third tallest = 9

$R = 30 \text{ cm}$