

SECTION 'C'

Q7:

(a) In a survey

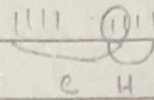
data:

Total people = 100

cricket = 65

hockey = 40

neither cricket nor hockey = 20



$$100$$

$$\begin{array}{r} 65 \\ 40 \\ \hline 105 \end{array}$$

~~105~~

80

$$\begin{array}{r} 65 \\ 40 \\ \hline 105 \end{array}$$

$$\begin{array}{r} 15 \\ 40 \\ \hline 55 \end{array}$$

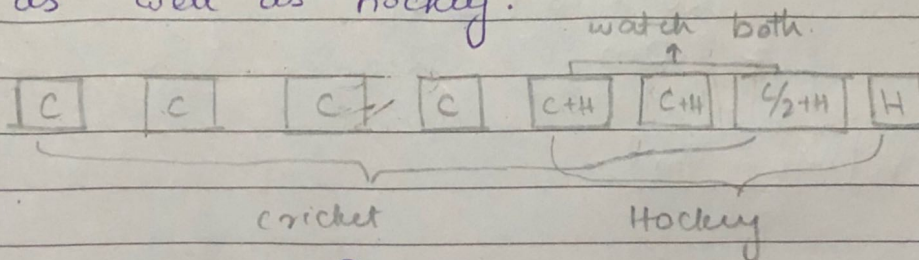
firstly, eliminating the people who neither watch cricket nor hockey out of total, so that ~~we can~~ the people who watch both can be calculated.

$$100 - 20 = 80$$

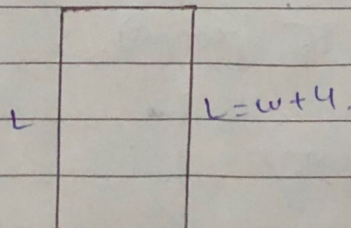
$$\text{cricket} = 80 - 65 = 15, \text{ Hockey} = 80 - 40 = 40$$

$$\text{the difference is} = 40 - 15 = 25.$$

thus, 25 people watch both cricket as well as hockey.



(b)



$$L = w + 4$$

$$w = ?$$

$$P = 72m.$$

$$\text{volume} = ?$$

$$\text{depth} = 2.5m.$$

$$\text{Perimeter} = 2l + 2w$$

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

$$72 = 2w + 8 + 2w$$

$$72 = 4w + 8$$

$$72 - 8 = 4w$$

$$4w = 64$$

$$w = \frac{64}{4} = 16$$

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

finding length.

$$\text{Perimeter} = 2l + 2w$$

$$72 = 2l + 2(16)$$

$$72 = 2l + 32$$

$$\frac{72 - 32}{2} = l \quad \rightarrow \quad \frac{40}{2}$$

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

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

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

$$= 7.0\text{m}$$

$$\boxed{\text{Volume} = 7\text{m}}$$

$$\begin{array}{r} 20 \\ \times 16 \\ \hline 120 \\ 200 \times \\ \hline 320 \\ \times 2.5 \\ \hline 1600 \\ 6400 \times \\ \hline \end{array}$$

(d)

$$\text{ages of father + son} = 75 \text{ (present)}.$$

$$\text{no. years} = -10$$

$$\rightarrow \text{father's age} = 4(\text{son}).$$

$$\text{father's age} - 10(\text{years}) = 4(\text{son}) - 10(\text{years}).$$

$$f - 10 = 4s - 10$$

Q8

(a)

ROAD
= UQDG

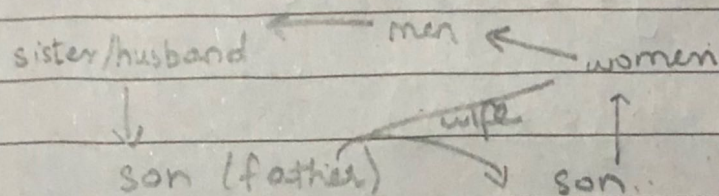
R O A D
3 2 3 3
U Q D G

LAKE?

L A K E
3 2 3 3
O C N H

LAKE can be written as, "OCNH"

(b)



The man is uncle-in-law of that women

(c)

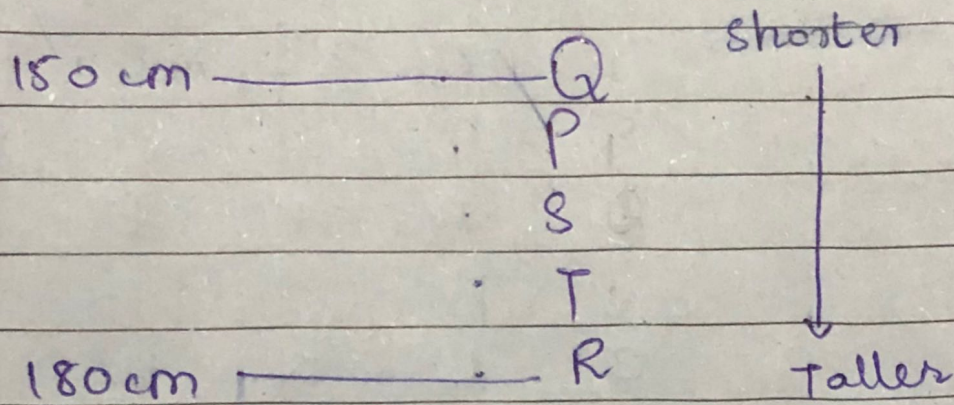
4, 12, 6, 18, 9, 27, 14

Relationships shown by brackets: 4 to 12 (x3), 12 to 6 (x0.5), 6 to 18 (x3), 18 to 9 (x0.5), 9 to 27 (x3), 27 to 14 (x0.5).
 Additional brackets: 4 to 6 (x1.5), 6 to 9 (x1.5), 9 to 12 (x1.5), 12 to 18 (x1.5), 18 to 27 (x2.25).

1, 2, 6, 24, 120, 620

Relationships shown by brackets: 1 to 2 (x2), 2 to 6 (x3), 6 to 24 (x4), 24 to 120 (x5), 120 to 620 (x6).
 Additional brackets: 1 to 6 (x6), 2 to 12 (x6), 6 to 36 (x6), 24 to 144 (x6).

(d) According to data,



$$\text{range} = \text{max} - \text{min}$$

$$\text{range} = 150 - 180$$

$$\boxed{\text{range} = 30}$$

Q. 7.

(a) In a survey of **100 people**, 65 watch Cricket, 40 watch Hockey, and 20 watch neither. How many people watch **both** Cricket and Hockey? (5)

(b) A rectangular swimming pool has a length that is **4 meters more** than its width. If the **perimeter** of the pool is **72 meters**, what is the volume of water needed to fill the pool to a uniform depth of **2.5 meters**? (5)

(c) A train leaves City A at 8:00 AM traveling at **60 km/hr**. Another train leaves City B at the same time, traveling towards City A at **40 km/hr**. If the distance between City A and City B is **400 km**, at what time will the two trains meet? (5)

(d) The sum of the present ages of a father and his son is **75 years**. Ten years ago, the father's age was **four times** the son's age. What are their current ages? (5) **(20)**

Q.8.

(a) In a certain code language, if '**ROAD**' is coded as '**UQDG**', how would '**LAKE**' be coded in the same language? Explain the rule of coding. (5)

(b) A man tells a woman, "The son of my sister's husband is the father of your son." How is the woman related to the man? (5)

(c) Find the next number in each of the following sequences and explain the pattern:

- (i) 4, 12, 6, 18, 9, 27, ____
- (ii) 1, 2, 6, 24, 120, ____ (5)

(d) Five friends (P, Q, R, S, T) have different heights.

- P is shorter than Q but taller than R.
- S is shorter than T but taller than Q.
- The shortest person is 150 cm tall, and the tallest is 180 cm tall. Who among the friends is the third tallest, and what is the maximum possible range of their heights? (5)

(20)

Best Wishes for CSS-2026