Q6 a) Total length of fence = 300ft

Let the shorter piece be = x

∴ the longer piece would be = $4x$

Therefore

$$300ft = x + 4x$$
$$300ft = 5x$$
$$x = \frac{300ft}{5}$$
$$x = 60ft$$

and $4x = 4(60)$
$$= 240ft$$

$$\begin{array}{r} 60 \\ 5\overline{)300} \\ 30 \\ \hline xx \end{array}$$

Therefore longer piece = 240ft

and shorter piece = 60ft

Q6 b) Perimeter of triangle = 20 inch

~~given~~ let width be = x

then length = $2x + 3$

As we know that ~~parameter of the Rectangle =~~

parameter of Rectangle = $2(\text{length} + \text{width})$

then

$$20\,inch = 2((2x+3)+x)$$
$$10\,inch = 2x + 3 + x$$
$$10 - 3\,inch = 3x$$
$$7\,inch = 3x$$
$$x = 7/3\,inch$$

Therefore

width = $7/3$ inch = 2.33 inch

length = $2x + 3$ inch
$$= 2(2.33) + 3\,inch$$
$$= 4.66 + 3$$
$$= 7.66\,inch.$$

c. As the team won 60% of the matches, no matches were drawn and lost 24 matches.

$$\text{The \% of matches lost} = 100\% - 60\%$$
$$= 40\%$$

6 now we know that 24 matches represent 40% of the total matches. Using proportion method to find total matches represented by 'x'

Number of matches	Percentage
24 ↓	40% ↓
x	100%

$$\cancel{x \times 100\%} = \cancel{24 \times 40\%}$$
$$x \times 40\% = 24 \times 100\%$$
$$x = \frac{24 \times 100\%}{40\%}$$
$$x = \frac{24 \times 10^5}{24}$$
$$x = 12 \times 5$$
$$x = 60$$

In total the team played 60 matches.

d. Based upon the ratio 3:2.
we assume the numbers are 3x and 2x. now adding 2 and 6 as given in the question, this gives us;

$$3x + 2 \quad \text{and} \quad 2x + 6$$

now,
$$\frac{3x + 2}{2x + 6} = \frac{4}{5}$$

Cross multiplying

$$5(3x+2) = 4(2x+6)$$
$$15x+10 = 8x+24$$
$$15x - 8x = 24-10$$
$$7x = 14$$
$$x = 2$$

accordingly the first number is = $3x$

$$= 3(2) = 6$$

an'd the second number is - $2x$

$$= 2(2) = 4$$

Give the final answer in the form of statements

Q7 (a) Given that

total seats = 400

occupied seats = 325

then occupied seats as a percentage of total seats will be

$$= \frac{325}{400} \times 100$$

$$= 81.25\%$$

(division work)
81.25
4) 325
32
5
4
10

(b) We are given that

30 people use 40 kg Sugar in 10 days

and we need to find the

how many days will 80 people take to use 320 kg sugar

arranging the data

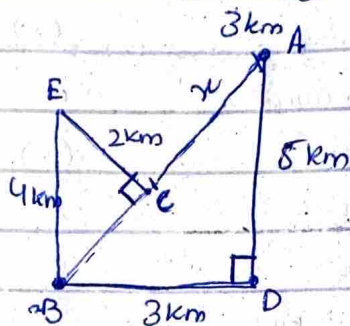| People	Sugar	Days
30	40 kg	10
80	320 kg	x

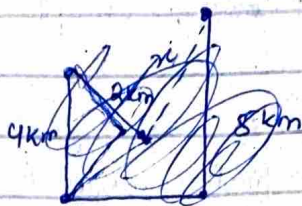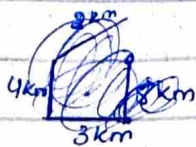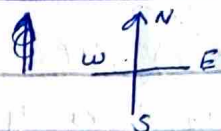from the above data of 30 people,

40kg sugar is utilized at a rate of 4kg per day.

and each person uses 0.133 kg sugar per day.

Therefore 80 people will use $\frac{10.64}{0.64}$ kg sugar per day

and will take 3 days to consume the sugar

Q7(c) as we know that

The above diagram shows the pathway of the Cow, the distance of cow from its starting point A is showed by x and the cow is Currently at point C.

If we look at the pathway Point ADB shows a right angle triangle so distance AB will be

$$AB^2 = AD^2 + BD^2$$
$$AB^2 = 5^2 + 3^2$$
$$AB^2 = 25 + 9$$
$$AB^2 = 34$$
$$AB = \sqrt{34}$$

now BCE also represents a triangle then

$$EB^2 = EC^2 + BC^2$$
$$4^2 = 2^2 + BC^2$$
$$16 + 4 = BC^2$$
$$20 = BC^2$$
$$BC = \sqrt{20}$$

now distance $x = AB - BC$
$$= \sqrt{34} - \sqrt{20}$$

$\frac{32}{+166}$

(d) Volume of cylinder = $\pi r^2 h$

as r = 10cm
     h = 36cm

then

Volume = $\frac{22}{7} \times (10^2) \times 36$ cm

= $\frac{22}{7} \times 100 cm^2 \times 36cm$

= 3.14 × 100 × 36 cm³

= 314 × 36 cm³

= 11304 cm³

```
      1
      2
    314
  × 1 36
   1884
   942 ×
  11304
```

Q8) a) How do we solve it and what is the answer.

b. Probability of drawing
   (i) 8 = 1/12
   (ii) even number → Total even number
       till 12 = 6 then probability = ½
   (iii) total perfect squares till 12 = 3
       Probability = ¼
   (iv) negative number probability = 0
   (v) Number less than 13 probability = 1

(C) How do to Calculate

(d) mean is the most repeated number = 16
median is the middle number = 16
mean is the Sum of all numbers divided by the
quality of number = $\frac{15+15+16+16+16+17+17+18+19}{9}$

= $\frac{30+48+34+37}{9}$

= $\frac{78+71}{9} = \frac{149}{9}$

= 16.5

```
   16.5
9 )149
   9
   59
   54
    5
```

Range = 4 that is diffrence of highest and lowest number
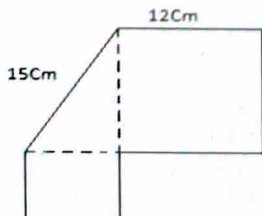
SECTION-II

Q. No. 6

a. A farmer cuts a 300 ft. fence into two pieces of different sizes. The longer piece should be four times as long as the shorter piece. How long are the two pieces?

b. If a rectangle has a length that is three more than twice the width and the perimeter is 20-inches, what are the dimensions of the rectangle?

c. A cricket team won 60% of the total matches it played during the year. If it lost 24 matches in all and no matches were drawn, find the number of matches played during the year.

d. Two numbers are in the ratio 3: 2. If 2 is added to the first and 6 is added to the second number, they are in the ratio 4: 5. Find the numbers.

Q. No. 7

a. A concert hall 400 seats of which 325 are occupied. Express the attendance at a percent of capacity.

b. If 30-persons use 40kg of sugar in 10 days. Find in how many days 80-persons will use 320kg of sugar?

c. A crow travels south 5km, and then 3km west, and then 4km north. Finally travels 2km south-east. How far is the crow from initial point?

d. If radius of a cylinder is 10cm and height is 36cm. Find the volume of cylinder.

Q. No. 8

a. If in a certain language, BROTHER is written as QDGSNQA, then in the same language, SISTER would be written as --------?

b. A card is drawn at random from a box containing 12 cards numbered 1,2,3,4,5,....,12. Find the probability of drawing (i) '8', (ii) an even number, (iii) a perfect square, (iv) a negative number and (v) a number less than 13.

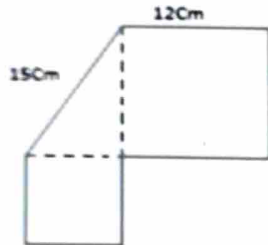c. Calculate the total area and perimeter of the given shape.

d. If radius of a cylinder is 10cm and height is 36cm. Find the volume of cylinder.

Q. No. 8

a. If in a certain language, BROTHER is written as QDGSNQA, then in the same language, SISTER would be written as --------?

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c. Calculate the total area and perimeter of the given shape.

d. There are nine students in a group having ages 15, 15, 16, 16, 16, 17, 17, 18, 19. Calculate **mean, medium, mode and range** of their ages, also define the above mentioned terms.

***** *Good Luck for CSS2024*****