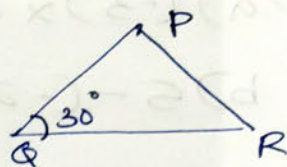


ANNUAL EVALUATION 2022-23

MATHEMATICS CLASS: 8

1) Since $PQ = PR$, $\angle R = \angle Q$



a) $\angle R = 30^\circ$

b) $\angle P = 180 - (30 + 30)$
 $= 180 - 60$
 $= \underline{\underline{120^\circ}}$

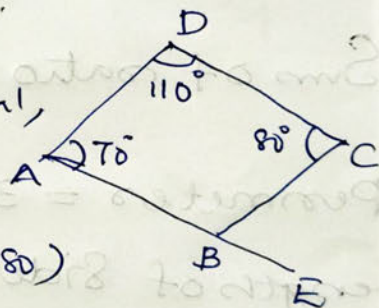
2) Let Number = x

$\therefore 2 + 3x = 17$
 $[1 - (1 + 2) \cdot 3x = 17 - 2]$
 $3x = 15$
 $[x - 1 + 0] \therefore x = \frac{15}{3}$

$\therefore \underline{\underline{\text{Number} = 5}}$

3) For a quadrilateral,

$\angle A + \angle B + \angle C + \angle D = 360^\circ$



a) $\angle ABC = 360 - (110 + 70 + 80)$
 $= 360 - 260$
 $= \underline{\underline{100^\circ}}$

b) At B, $\angle ABC + \angle CBE = 180^\circ$
 $100 + \angle CBE = 180^\circ$
 $\therefore \angle CBE = 180 - 100$
 $= \underline{\underline{80^\circ}}$

4) Ratio of Girls to boys = 2:3

Total number of students = 50.

Sum of ratios = $2 + 3$
 $= \underline{\underline{5}}$

a) Number of girls = $\frac{2}{5} \times 50 = \underline{\underline{20}}$

$$b) \text{ Number of boys} = \frac{3}{5} \times 50$$

$$= \underline{30}$$

$$5) a) (-3) \times 4 = \underline{-12}$$

$$b) 5 - (-2) = 5 + 2$$

$$= \underline{7}$$

$$6) a) a^2 - b^2 = \underline{(a+b)} \times \underline{(a-b)}$$

$$b) 100^2 - 99^2 = (100+99) \times (100-99)$$

$$= \underline{199} \times 1$$

$$c) (a+1)^2 - (1)^2 = [(a+1)+1] [(a+1)-1]$$

$$= [a+2] [a+1-1]$$

$$= [a+2] \times \underline{a}$$

$$7) \text{ Sum of ratio of sides} = 2+3+4$$

$$= \underline{9}$$

$$\text{Perimeter} = 36 \text{ cm}$$

$$\text{length of sides} = 36 \times \frac{2}{9}, 36 \times \frac{3}{9}, 36 \times \frac{4}{9}$$

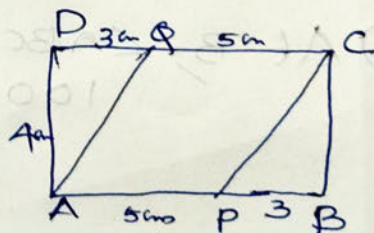
$$= \underline{8 \text{ cm}}, \underline{12 \text{ cm}}, \underline{16 \text{ cm}}$$

$$8) a) A = l \times b = 8 \times 4 = \underline{32 \text{ cm}^2}$$

$$b) AP = AB - PB$$

$$= 8 - 3$$

$$= \underline{5 \text{ cm}}$$



$$c) \text{ Area of } 11 \text{ cm}^2, A = bh$$

$$= 5 \times 4$$

$$= \underline{20 \text{ cm}^2}$$

9)

$$a) x + y = 3 + (-7) \\ = \underline{\underline{-4}}$$

$$b) x - y = 3 - (-7) \\ = 3 + (7) \\ = \underline{\underline{10}}$$

$$c) (x + y)(x - y) = -4 \times 10 \\ = \underline{\underline{-40}}$$

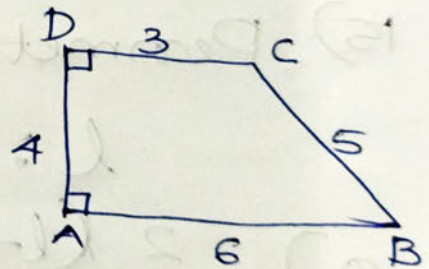
10)

Score	Tally mark	Number of Students
0-10		2
10-20		5
20-30		7
30-40		7
40-50		4
TOTAL		25

11)

a) Sum of ||^l sides

$$AB + CD = 6 + 3 \\ = \underline{\underline{9 \text{ cm}}}$$



b) Area of trapezium (A) = $\frac{1}{2} h(a + b)$

$$= \frac{1}{2} \times 4(6 + 3) \\ = 2 \times 9 \\ = \underline{\underline{18 \text{ cm}^2}}$$

12) fig.

13) fig.

14)

$$\begin{array}{r}
 P_1 = 10000.00 \\
 I_1 = 1000.00 \\
 \hline
 P_2 = 11000.00 \\
 I_2 = 1100.00 \\
 \hline
 P_3 = 12100.00
 \end{array}
 \left.
 \begin{array}{l}
 10000 \times \frac{10}{100} = 1000 \\
 11000 \times \frac{10}{100} = 1100
 \end{array}
 \right\}$$

Amount deposited = 10,000

$$\therefore \text{Amount after 2 years} = \frac{12100.00}{10000.00} = 22100.00$$

$$\therefore \text{Interest in 3rd year} = 22100 \times \frac{10}{100} = \underline{\underline{\text{Rs. } 2210/-}}$$

$$\therefore \text{Amount got after 3 years} = 22100 + 2210 = \underline{\underline{\text{Rs. } 24310/-}}$$

15) Perimeter = 48 cm

$$l : b = 5 : 3$$

$$a) \quad 2(l+b) = 48$$

$$\therefore l+b = \frac{48}{2}$$

$$l+b = \underline{\underline{24 \text{ cm}}}$$

$$b) \quad \text{Sum of ratios} = 5+3 = \underline{\underline{8}}$$

$$\therefore \text{Length} = 24 \times \frac{5}{8} = \underline{\underline{15 \text{ cm}}}$$

$$\text{Breadth} = 24 \times \frac{3}{8} = \underline{\underline{9 \text{ cm}}}$$

c) When breadth increased by 1 cm, New breadth = 10 cm
 $\therefore l : b = 15 : 10 = \underline{\underline{3 : 2}}$

16) fig.

$$\begin{aligned} 17) a) x - y &= (-5) - (-6) \\ &= -5 + 6 \\ &= +\underline{1} \end{aligned}$$

$$\begin{aligned} b) (x - y)z &= 1 \times (4) \\ &= \underline{4} \end{aligned}$$

$$\begin{aligned} c) xz - yz &= (-5) \times (4) - (-6)(4) \\ &= -20 + 24 \\ &= +\underline{4} \end{aligned}$$

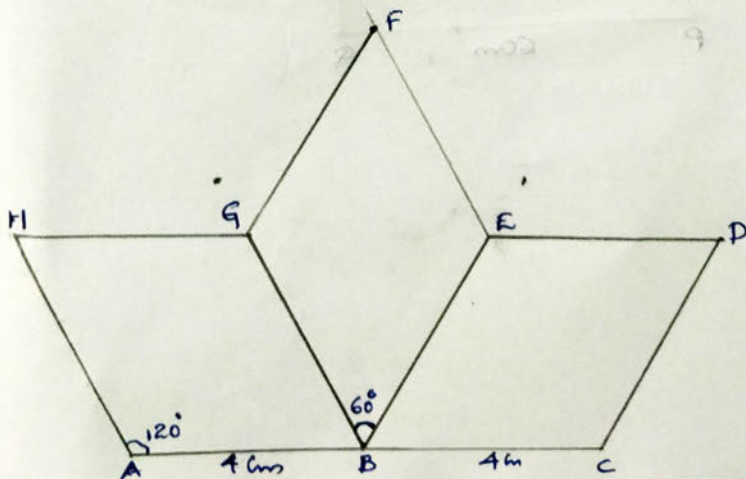
From (b) & (c) $(x - y)z = \underline{xz - yz}$

$$18) a) 5^2 + 4^2 = 9^2 - 2 \times (5 \times 4)$$

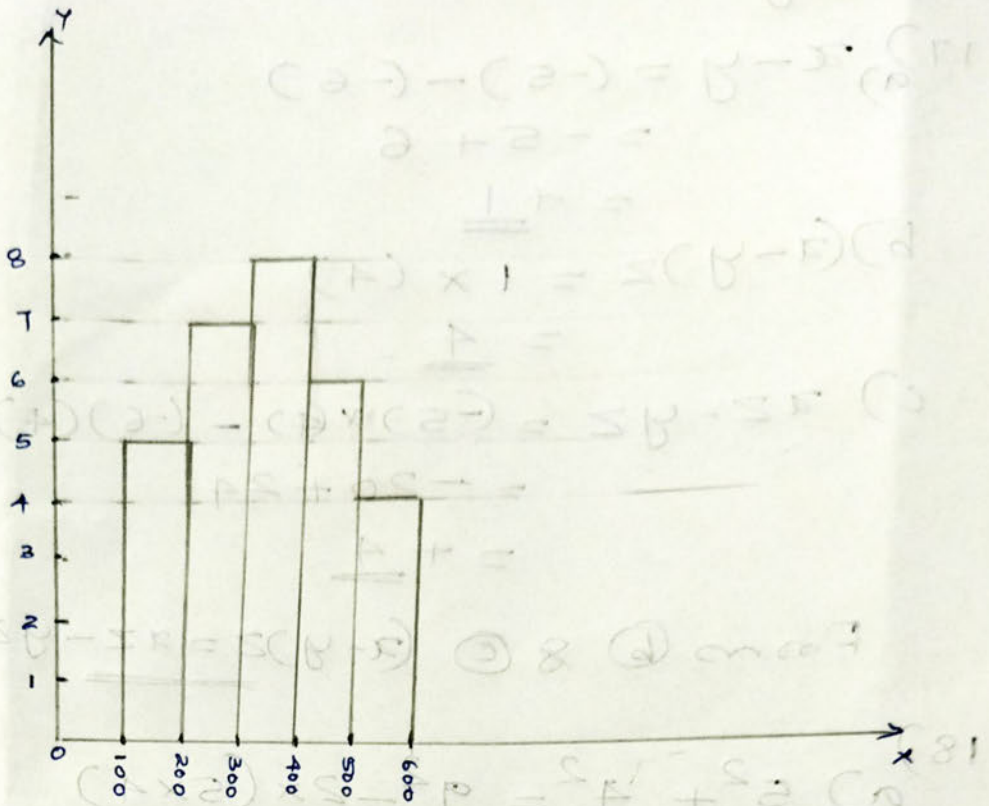
$$\begin{aligned} b) 8^2 + 7^2 &= (8+7)^2 - 2(8 \times 7) \\ &= 15^2 - 2(\underline{56}) \end{aligned}$$

$$\begin{aligned} c) 20^2 + 10^2 &= (20+10)^2 - 2(20 \times 10) \\ &= \underline{(30)^2} - 2(\underline{200}) \end{aligned}$$

$$d) a^2 + b^2 = (a+b)^2 - 2ab$$



13)



16)

