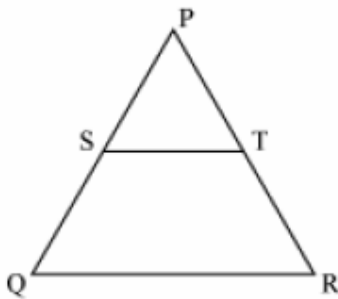


SECTION – A(Set-2)

This answer key as per the order of questions given in set – 2.

1. In fig. 1, S and T are points on the sides PQ and PR, respectively of $\triangle PQR$, such that $PT = 2$ cm, $TR = 4$ cm and ST is parallel to QR . Find the ratio of the areas of $\triangle PST$ and $\triangle PQR$.



Ans. 1:9

2. If $P(2, p)$ is the mid-point of the line segment joining the points $A(6, -5)$ and $B(-2, 11)$, find the value of p .

Ans. $p = 3$

3. If $A(1, 2)$, $B(4, 3)$ and $C(6, 6)$ are the three vertices of a parallelogram ABCD, find the coordinates of the fourth vertex D.

Ans. (3,5)

4. The slant height of a frustum of a cone is 4 cm and the perimeters (circumferences) of its circular ends are 18 cm and 6 cm. Find the curved surface area of the frustum.

$$\left[\text{Use } \pi = \frac{22}{7} \right]$$

Ans. Curved surface area of frustum: 48 cm^2

5. A card is drawn at random from a well shuffled pack of 52 playing cards. Find the probability of getting a red face card.

Ans. $\frac{3}{6}$

6. If $2x = \sec A$ and $\frac{2}{x} = \tan A$, find the value of $2\left(x^2 - \frac{1}{x^2}\right)$.

Ans. $\frac{1}{2}$

7. In fig. 2, $\triangle AHK$ is similar to $\triangle ABC$. If $AK = 10$ cm, $BC = 3.5$ cm and $HK = 7$ cm, find AC .

Ans. $AC = 5$ cm

8. If the sum of first p terms of an A.P., is $ap^2 + bp$, find its common difference.

Ans. Common difference, $d = 2a$

9. If α, β are the zeroes of a polynomial, such that $\alpha + \beta = 6$ and $\alpha\beta = 4$, then write the polynomial.

Ans. $x^2 - 6x + 4$

10. Has the rational number $\frac{441}{2^2 \cdot 5^7 \cdot 7^7}$ a terminating or a non-terminating decimal representation?

Ans. Terminating

SET - 3

6. If $\operatorname{cosec} \theta = 2x$ and $\cot \theta = \frac{2}{x}$, find the value of $2\left(x^2 - \frac{1}{x^2}\right)$.

Ans. $\frac{1}{2}$