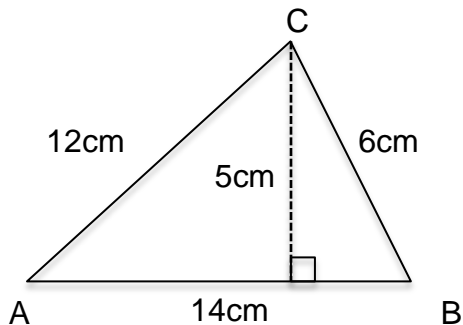


Sample Questions – Part A (Multiple Choice)

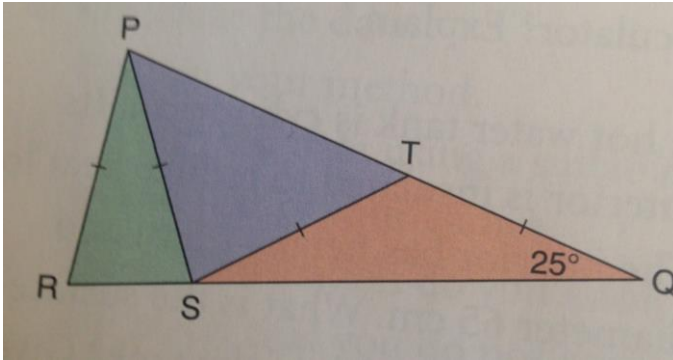
The following questions are structured in such a way they resemble the actual test.

1. If there are 5 yellow marbles in a bag of 25 marbles, what percent of the marbles are not yellow?
2. The set of numbers 1, 3, 5, 7,... follows a pattern rule. What will be the value of the 100th term?
3. What is the value of $-3x^2y^3$ when $x = 2$ and $y = 4$?
4. The side lengths of $\triangle ABC$ are 6cm, 12cm, and 14cm. The height from C to AB is about 5cm. Determine the area of $\triangle ABC$.



5. A hot air balloon is initially at 400m and is descending at a constant rate of 80m/min. How long will it take the balloon to reach a height of 160m?
6. Determine the equation of a line that passes through the points $(-1, 1)$ and $(-3, -2)$.
7. A number cube is labeled 1 to 6. The number cube is rolled. What is the probability of getting a number less than 5?
8. Nada is landscaping her front yard. She has 100m of plastic edging to enclose a circular garden. What is the diameter of the garden?

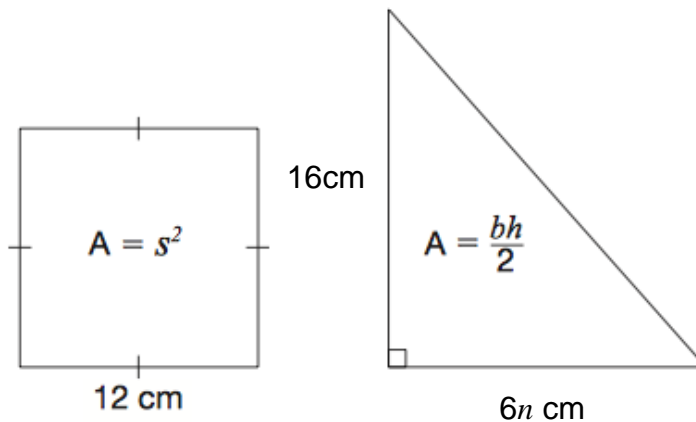
9. Find the measure of $\angle PST$.



10. What exponent goes in the box to make the following equation true?

$$\frac{x^{\boxed{}} x^6}{x^2} = x^{12}$$

11. The square and the triangle have the same area. What is the value of n ?



12. There is a linear relationship between the total cost of renting a costume and the numbers of hours the costume is rented.

- For 3 hours, the total cost is \$80.
- For 5 hours, the total cost is \$100.

What type of variation is this relationship and what is its initial value?

13. A rectangle has an area of $5x^2 + 15x$ square units. Determine expressions for the length and the width of the rectangle.

14. Determine the point of intersection for the pair of lines.

$$2x - 3y = -2$$

$$y + 4x = 24$$

15. Mariana is in a bicycle road race. In the first leg she rides 12km, due east, from Humberview to Bridgetown. Then, she turns and rides 24km, due north west to Yorktown, making a 60° angle from the first leg. The final turn, due south leads back to Humberview. What is the total length of the race, to the nearest kilometer?