

CHAPTER-10 | : Heron's Formula

QUIZ PART-01

1. In Heron's formula, what does 's' represent?

- A) Perimeter of the triangle
- B) Semiperimeter of the triangle
- C) Twice the perimeter
- D) Area of the triangle (B)

Explanation: 's' represents the semiperimeter, which is half the perimeter of the triangle.

2. The area of a triangle with sides 3m, 4m, and 5m using Heron's formula is:

- A) $6m^2$
- B) $12m^2$
- C) $15m^2$
- D) None of these (A)

Explanation: The area is $6m^2$, calculated using Heron's formula for the sides 3m, 4m, and 5m.

3. If a triangle's sides are in the ratio 3:4:5 and its perimeter is 60 cm, the largest side is:

- A) 15 cm
- B) 25 cm
- C) 35 cm
- D) 45 cm (B)

Explanation: By using the perimeter and the ratio, the largest side is 25 cm.

4. What is the formula for the area of a triangle using Heron's formula?

- A) Area = (Base \times Height)
- B) Area = $s(s - a)(s - b)(s - c)$
- C) Area = $\frac{1}{2} \times$ Base \times Height
- D) Area = $\frac{1}{2} \times$ Side \times Side (B)

Explanation: The correct formula is Heron's formula: Area = $\sqrt{s(s - a)(s - b)(s - c)}$.

5. The semiperimeter of a triangle is calculated as:

- A) $(a + b + c)/2$
- B) $(a + b + c)/3$
- C) $a \times b \times c$
- D) $2 \times (a + b + c)$ (A)

Explanation: The semiperimeter is half of the perimeter: $s = (a + b + c)/2$.

6. The perimeter of a triangle is 60 cm, and the sides are in the ratio of 3:4:5. What is the value of 'x' for the triangle sides 3x, 4x, 5x?

- A) 5 cm
- B) 10 cm
- C) 15 cm
- D) 20 cm (B)

Explanation: Using the perimeter formula, $x = 10$ cm.

7. In a triangular lamina with sides 3m, 4m, and 5m, the area is:

- A) $6m^2$
- B) $12m^2$
- C) $15m^2$
- D) $20m^2$ (A)

Explanation: The area of the triangular lamina is $6m^2$ using Heron's formula.

8. The formula for the area of a triangle given its three sides is known as:

- A) Pythagoras' theorem
- B) Heron's formula
- C) Theorem of Pythagoras
- D) Simple area formula (B)

Explanation: Heron's formula calculates the area using the three sides of a triangle.

9. For a triangle with sides 3m, 4m, and 5m, the area is:

- A) $10m^2$
- B) $12m^2$
- C) $6m^2$
- D) $15m^2$ (C)

Explanation: The area is $6m^2$, calculated using Heron's formula.

10. If a triangle has sides 7 cm, 24 cm, and 25 cm, the semiperimeter (s) is:

- A) 28 cm
- B) 30 cm
- C) 35 cm
- D) 36 cm (B)

Explanation: The semiperimeter is calculated as $s = (7 + 24 + 25) / 2 = 28$ cm.