1. Heron's formula is used to find the area of:
a) Square
b) Triangle
c) Circle
d) Rectangle

2. If a triangle has sides 7 cm, 24 cm, and 25 cm, then the semi-perimeter is:
a) 32 cm
b) 28 cm
c) 30 cm
d) 35 cm

3. The semi-perimeter of a triangle with sides 6 cm, 8 cm, and 10 cm is:
a) 10 cm
b) 12 cm
c) 14 cm
d) 16 cm

4. The unit of area obtained using Heron's formula is:
a) cm   b) cm²
c) cm³ d) m³

5. If the sides of a triangle are 9 cm, 12 cm, and 15 cm, then its area is:
a) 48 cm²
b) 54 cm²
c) 72 cm²
d) 90 cm²

6. Heron's formula is applicable to:
a) Only right-angled triangles
b) Only isosceles triangles
c) Only equilateral triangles
d) Any type of triangle

7. The formula for the semi-perimeter (s) of a triangle with sides a, b, and c is:
a) $S = \frac{a+b-c}{2}$

b) $S = \frac{a+b+c}{2}$

c) $S = a+b+c$

d) $S = \frac{a \times b \times c}{2}$

8. If a triangle has sides 5 cm, 12 cm, and 13 cm, its area using Heron's formula is:
a) 20 cm²
b) 30 cm²
c) 25 cm²
d) 35 cm²

9. A triangle has sides 13 cm, 14 cm, and 15 cm. Its semi-perimeter is:
a) 20 cm
b) 21 cm
c) 22 cm
d) 23 cm

10 A farmer has a triangular field with sides 50 m, 120 m, and 130 m. What is the area of the field?
a) 3000 m²
b) 2800 m²
c) 3200 m²
d) 3500 m²

Short Answer Questions (2-3 marks each)

Q1 Find the semi-perimeter of a triangle with sides 10 cm, 24 cm, and 26 cm.

Q2. Find the area of an **equilateral triangle** with side 10 cm using Heron's formula.

Q3. A triangular field has sides 40 m, 24 m, and 32 m. Find its area.

Q4. **A garden is in the shape of a triangle with sides 40 m, 24 m, and 32 m. Find the area of the garden using Heron's formula.**

Q5. **A triangular plot has sides of 50 m, 120 m, and 130 m. How much land is available for farming inside the triangular plot?**

Q6.**Find the height of an equilateral triangle with side 10 cm using Heron's formula.. Two sides of a triangle are 8 cm and 15 cm, and the perimeter is 40 cm. Find the third side and then calculate the area using Heron's formula.**

Q7. **The perimeter of a triangle is 42 cm, and its sides are in the ratio 3:4:5. Find the area using Heron's formula.**

Q8. **A triangular field has sides 40 m, 25 m, and 35 m. How much space is available for farming inside this field?**