

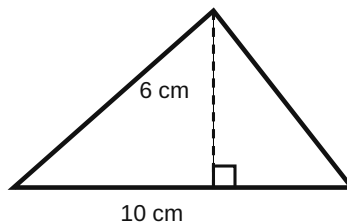
Boost Free Lessons - Year 7 Maths

Lesson 17: Area of Triangle

Name: _____ Grade: _____ Date: _____

Worked Example 1

Find the area of the triangle below.



1. The area of any triangle is $A = \frac{1}{2} \times \text{base} \times \text{height}$.
2. Substitute the values: $A = \frac{1}{2} \times 10 \times 6$.
3. $10 \times 6 = 60$, and half of 60 is 30.

$A = 30 \text{ cm}^2$

Worked Example 2

A triangle has an area of 48 m^2 and a base of 12 m. Find its height.

1. Write the formula: $A = \frac{1}{2} \times b \times h$.
2. Substitute what you know: $48 = \frac{1}{2} \times 12 \times h$.
3. Simplify the right-hand side: $\frac{1}{2} \times 12 = 6$, so $48 = 6h$.
4. Divide both sides by 6.

$h = 8 \text{ m}$

Remember: The height must be **perpendicular** to the base, at right angles to it, not the slanted side. Area is measured in square units.



Question 1: Find the area of each triangle.

1. base = 8 cm, height = 5 cm
2. base = 12 m, height = 7 m
3. base = 20 cm, height = 9 cm
4. base = 6 mm, height = 6 mm
5. base = 15 m, height = 4 m
6. base = 9 cm, height = 14 cm
7. base = 2.5 m, height = 8 m
8. base = 30 cm, height = 11 cm



Question 2: Answer the following questions.

1. A triangle has an area of 24 cm^2 and a base of 8 cm. Find its height.

2. A triangle has an area of 100 m^2 and a height of 10 m. Find its base.

3. A triangle has an area of 54 cm^2 and a base of 12 cm. Find its height.

4. Find the area of a triangle with a base of 14 cm and a height of 9 cm.

5. A rectangle measuring 10 cm by 8 cm is cut in half along a diagonal. Find the area of one of the triangles.

6. Find the area of a triangle with base 16 m and height 7 m, then find the total area of three such triangles.



Question 3: Answer the following questions.

1. A triangular sail has a base of 4 m and a height of 9 m. Find its area.
2. A triangular garden bed has a base of 6 m and a height of 5 m. Soil costs \$12 per square metre. How much will it cost to fill?
3. A triangular flag has an area of 0.6 m^2 and a base of 1.2 m. Find its height.
4. A square of side 12 cm has a triangle cut out of it with base 12 cm and height 6 cm. Find the area that remains.
5. Two identical triangles, each with base 10 cm and height 7 cm, are joined to form a parallelogram. Find the area of the parallelogram.





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Answers : Area of Triangle**Question 1**

1. 20 cm^2
2. 42 m^2
3. 90 cm^2
4. 18 mm^2
5. 30 m^2
6. 63 cm^2
7. 10 m^2
8. 165 cm^2

Question 2

1. 6 cm
2. 20 m
3. 9 cm
4. 63 cm^2
5. 40 cm^2
6. 56 m^2 ; three triangles = 168 m^2

Question 3

1. 18 m^2
2. $15 \text{ m}^2 \times \$12 = \$180$
3. 1 m
4. $144 - 36 = 108 \text{ cm}^2$
5. 70 cm^2

