LESSON MAKER PRO

Triangle Area Lab

Find areas and missing measures

GRADE 6 · 6.GM.2.2

6.GM.2.2 "Develop and use formulas to determine the area of triangles and find unknown measures."

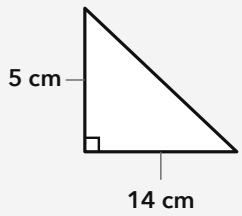
NAME _____ DATE _____

THE AREA RULE

To find a triangle's area, multiply its base by its perpendicular height, then divide by 2: area = base × height / 2. A perpendicular height meets the base at a right angle. If the area is known, use the same rule to find a missing base or height.

WORKED EXAMPLE

What is the area of the triangle shown?

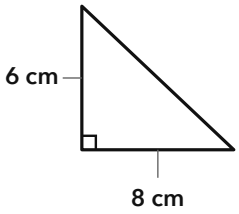


1. The labeled sides meet at a right angle, so use them as the base and height.
2. Area = 14 × 5 / 2.
3. Area = 70 / 2 = 35.

Answer: 35 cm^2

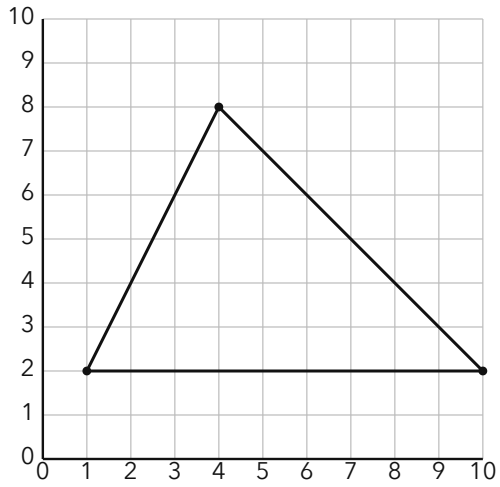
PRACTICE 6 problems

1 What is the area of the triangle shown?



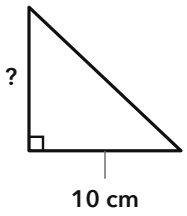
ANSWER _____

2 Each grid unit represents 1 cm. What is the area of the triangle shown?



ANSWER _____

3 The triangle shown has an area of 30 cm^2. What is its height?



ANSWER _____

4 A triangle has a base of 18 m and a perpendicular height of 7 m. What is its area?

ANSWER _____

5 A triangle has an area of 48 cm^2 and a base of 16 cm. What is its perpendicular height?

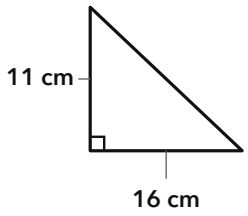
ANSWER _____

6 A triangle has an area of 42 m^2 and a perpendicular height of 7 m. What is its base?

ANSWER _____

APPLY IT Show your work

1 A student cuts a pennant for a school game in the shape shown. How much fabric covers one side of the pennant?



ANSWER _____

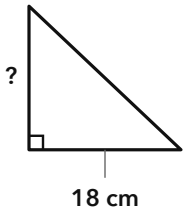
2 A triangular sign for a school game has an area of 96 cm^2 and a perpendicular height of 12 cm. How long is its base?

WORK SPACE

ANSWER _____

CHALLENGE One step up

The triangle shown has an area of 72 cm^2. Its base is made 3 cm longer while its height stays the same. What is the new area? Show how you found the height first.



WORK SPACE AND ANSWER

ANSWER KEY

Triangle Area Lab

GRADE 6 · 6.GM.2.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	What is the area of the triangle shown?	**24 cm²**
2	Each grid unit represents 1 cm. What is the area of the triangle shown?	**27 cm²**
3	The triangle shown has an area of 30 cm². What is its height?	**6 cm**
4	A triangle has a base of 18 m and a perpendicular height of 7 m. What is its area?	**63 m²**
5	A triangle has an area of 48 cm² and a base of 16 cm. What is its perpendicular height?	**6 cm**
6	A triangle has an area of 42 m² and a perpendicular height of 7 m. What is its base?	**12 m**

PART 2 · APPLY IT

1. **88 cm²** The labeled sides meet at a right angle. Divide their product by 2: 16 × 11 / 2 = 88.
2. **16 cm** Double the area, then divide by the height: 96 × 2 / 12 = 16.

CHALLENGE

The height is 8 cm because 72 × 2 / 18 = 8. The new base is 21 cm, so the new area is 21 × 8 / 2 = 84 cm².

Accept any correct method that uses a base and its perpendicular height. For the grid triangle, the horizontal base is 9 cm and the perpendicular height is 6 cm.