LESSON MAKER PRO

Triangle Area Quest

Use rectangles to find triangle areas.

GRADE 4 · 4.GR.A.4

4.GR.A.4 "Relate the area of a triangle to the area of a rectangle using decomposition and visual models. Derive and apply the formula to solve problems in contexts involving triangles positioned within or formed from the decomposition of rectangles"

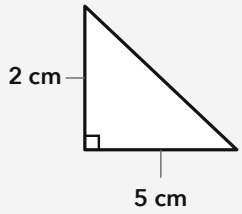
NAME _____ DATE _____

HALF A RECTANGLE

A triangle is half of a rectangle with the same base and height. Multiply the base by the height, then divide by 2.

WORKED EXAMPLE

Find the area of the triangle shown.



1. A matching rectangle has area 5 × 2 = 10 square cm.
2. The triangle is half: 10 / 2 = 5 square cm.

Answer: 5 square cm

PRACTICE 4 problems

1 A 6 cm by 4 cm rectangle is cut along a diagonal. Find the area of one triangle.

ANSWER _____

2 A triangle is half of a 7 m by 8 m rectangle. Find its area.

ANSWER _____

3 A triangle has a base of 10 in. and a height of 3 in. Find its area.

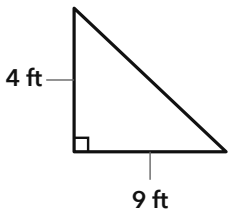
ANSWER _____

4 A triangle has an area of 18 square cm. It is half of a rectangle with a base of 9 cm. What is the rectangle's height?

ANSWER _____

APPLY IT Show your work

1 The school garden has the shape shown. How many square feet does it cover?



ANSWER _____

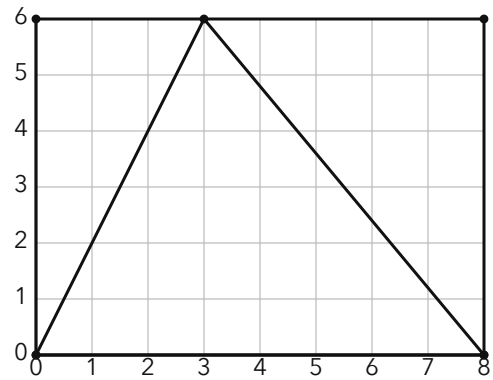
2 A game banner is made by cutting an 8-inch by 6-inch rectangle from corner to corner. What is the area of one triangle?

WORK SPACE

ANSWER _____

CHALLENGE One step up

How many square units of the rectangle lie outside the triangle? Show how you know.



WORK SPACE AND ANSWER

ANSWER KEY

Triangle Area Quest

GRADE 4 · 4.GR.A.4

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A 6 cm by 4 cm rectangle is cut along a diagonal. Find the area of one triangle.	**12 square cm**
2	A triangle is half of a 7 m by 8 m rectangle. Find its area.	**28 square m**
3	A triangle has a base of 10 in. and a height of 3 in. Find its area.	**15 square in.**
4	A triangle has an area of 18 square cm. It is half of a rectangle with a base of 9 cm. What is the rectangle's height?	**4 cm**

PART 2 · APPLY IT

1. **18 square feet** A matching rectangle covers 9 × 4 = 36 square feet. The garden covers half, or 18 square feet.
2. **24 square inches** The rectangle's area is 8 × 6 = 48 square inches. Each triangle has half that area, or 24 square inches.

CHALLENGE

24 square units. The rectangle's area is 8 × 6 = 48 square units. The triangle's area is 48 / 2 = 24 square units, so 48 - 24 = 24 square units lie outside it.

For the challenge, accept any correct calculation showing that the area outside the triangle is 24 square units.