

Triangle Area Lab

Use rectangles to find triangle area.

GRADE 6 • MA.6.GR.2.1

MA.6.GR.2.1 "Derive a formula for the area of a right triangle using a rectangle. Apply a formula to find the area of a triangle."

NAME _____

DATE _____

HALF A RECTANGLE

A right triangle with base b and height h is half of a rectangle with the same base and height. Find the rectangle area, then divide by 2. The formula is $A = b \times h / 2$.

WORKED EXAMPLE

Find the area of a right triangle with a base of 7 cm and a height of 4 cm.

1. Find the matching rectangle area: $7 \times 4 = 28$.
2. A diagonal splits the rectangle into 2 equal triangles.
3. Divide by 2: $28 / 2 = 14$.

Answer: 14 cm²

PRACTICE 6 problems

- 1** Find the area of a right triangle with a base of 8 in. and a height of 5 in.

ANSWER _____

- 2** Find the area of a right triangle with a base of 12 cm and a height of 6 cm.

ANSWER _____

- 3** Find the area of a right triangle with a base of 9 m and a height of 10 m.

ANSWER _____

- 4** Find the area of a right triangle with a base of 15 yd and a height of 8 yd.

ANSWER _____

- 5** Find the area of a right triangle with a base of 11 ft and a height of 6 ft.

ANSWER _____

- 6** Find the area of a right triangle with a base of 18 mm and a height of 9 mm.

ANSWER _____

APPLY IT Show your work

- 1** A triangular flag for a school esports team has a base of 16 inches and a height of 13 inches. What is the area of the flag?

WORK SPACE

ANSWER _____

- 2** A triangular section of a skate park ramp has a base of 22 feet and a height of 5 feet. What is the area of the triangular section?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A right triangle has an area of 54 cm^2 and a base of 12 cm. What is its height? Show how you know.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Find the area of a right triangle with a base of 8 in. and a height of 5 in.	20 in²
2	Find the area of a right triangle with a base of 12 cm and a height of 6 cm.	36 cm²
3	Find the area of a right triangle with a base of 9 m and a height of 10 m.	45 m²
4	Find the area of a right triangle with a base of 15 yd and a height of 8 yd.	60 yd²
5	Find the area of a right triangle with a base of 11 ft and a height of 6 ft.	33 ft²
6	Find the area of a right triangle with a base of 18 mm and a height of 9 mm.	81 mm²

PART 2 • APPLY IT

1. **104 in²** Use $A = b \times h / 2$. Compute $16 \times 13 / 2 = 104$ square inches.
2. **55 ft²** Use $A = b \times h / 2$. Compute $22 \times 5 / 2 = 55$ square feet.

CHALLENGE

9 cm

Accept equivalent multiplication order and correct area units. For the challenge, accept work such as $54 = 12 \times h / 2$, then $54 = 6h$, so $h = 9$ cm.