LESSON MAKER PRO

Shape Space

Find area and perimeter with triangles and parallelograms.

GRADE 6 · 6.MG.2

6.MG.2 "The student will reason mathematically to solve problems, including those in context, that involve the area and perimeter of triangles and parallelograms..."

NAME _____ DATE _____

AREA OR PERIMETER?

A parallelogram can be cut along its height and rearranged into a rectangle, so its area is base × height. A triangle with the same base and height has half that area, so its area is (base × height) / 2. Perimeter is the distance around a shape, found by adding all side lengths.

WORKED EXAMPLE

Find the area of a parallelogram with a base of 15 cm and a perpendicular height of 8 cm.

1. Use A = base × height.
2. A = 15 × 8.
3. A = 120 square centimeters.

Answer: 120 square centimeters

PRACTICE 6 problems

1 Find the area of a triangle with a base of 10 cm and a height of 7 cm.

ANSWER _____

2 Find the area of a parallelogram with a base of 9 m and a height of 4 m.

ANSWER _____

3 A triangle has side lengths of 13 in., 12 in., and 5 in. Find its perimeter.

ANSWER _____

4 A parallelogram has a base of 14 cm and a side length of 3 cm. Find its perimeter.

ANSWER _____

5 A triangle has an area of 54 square meters and a base of 12 m. Find its height.

ANSWER _____

6 A parallelogram has an area of 70 square centimeters and a height of 10 cm. Find its base.

ANSWER _____

APPLY IT Show your work

1 The school esports club is making a triangular pennant for its team table. The pennant has a base of 16 in. and a height of 9 in. What is its area?

WORK SPACE

ANSWER _____

2 A skateboard practice zone is shaped like a parallelogram. Its base is 18 ft, and each slanted side is 7 ft. How much fencing is needed to go around the zone?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A parallelogram has an area of 84 square units, a height of 7 units, and a slanted side length of 10 units. Find its perimeter.

_____

_____

ANSWER KEY

Shape Space

GRADE 6 · 6.MG.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the area of a triangle with a base of 10 cm and a height of 7 cm.	**35 square centimeters**
2	Find the area of a parallelogram with a base of 9 m and a height of 4 m.	**36 square meters**
3	A triangle has side lengths of 13 in., 12 in., and 5 in. Find its perimeter.	**30 inches**
4	A parallelogram has a base of 14 cm and a side length of 3 cm. Find its perimeter.	**34 centimeters**
5	A triangle has an area of 54 square meters and a base of 12 m. Find its height.	**9 meters**
6	A parallelogram has an area of 70 square centimeters and a height of 10 cm. Find its base.	**7 centimeters**

PART 2 · APPLY IT

1. **72 square inches** Use A = (base × height) / 2. Compute (16 × 9) / 2 = 72.
2. **50 feet** A parallelogram has two bases and two equal side lengths. Compute 18 + 18 + 7 + 7 = 50.

CHALLENGE

44 units

Accept equivalent area units written with squared-unit notation, such as cm^2. For the challenge, students should find a base of 12 units from 84 ÷ 7, then calculate 12 + 12 + 10 + 10.