LESSON MAKER PRO

Shape Space Mission

Find perimeter and area of triangles and parallelograms.

GRADE 6 · 6.MG.2.b

6.MG.2.b "Solve problems, including those in context, involving the perimeter and area of triangles and parallelograms."

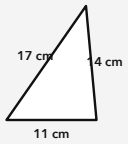
NAME _____ DATE _____

MEASURE THE SHAPE

Perimeter is the distance around a shape, so add all of its side lengths. For area, use triangle area = 1/2 × base × perpendicular height and parallelogram area = base × perpendicular height.

WORKED EXAMPLE

Find the perimeter of the triangle in the figure.

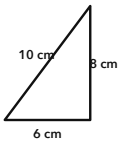


1. Perimeter = 11 + 14 + 17.
2. Add the side lengths: 11 + 14 + 17 = 42.

Answer: 42 cm

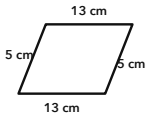
PRACTICE 6 problems

1 Find the perimeter of the triangle in the figure.



ANSWER _____

2 Find the perimeter of the parallelogram in the figure.



ANSWER _____

3 A triangle has a base of 16 m and a perpendicular height of 7 m. Find its area.

ANSWER _____

4 A parallelogram has a base of 9 cm and a perpendicular height of 15 cm. Find its area.

ANSWER _____

5 A triangle has side lengths of 19 in., 23 in., and x in. Its perimeter is 57 in. Find x.

ANSWER _____

6 A triangle has a base of 24 yd and a perpendicular height of 5 yd. Find its area.

ANSWER _____

APPLY IT Show your work

1 The art club is making a parallelogram-shaped banner for a school concert. The base is 28 cm, each slanted side is 16 cm, and the perpendicular height is 12 cm. What are the area and perimeter of the banner?

WORK SPACE

ANSWER _____

2 Student council marks off a triangular space for a talent show. The three sides measure 25 m, 29 m, and 34 m. How much rope is needed to go around the space once?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A parallelogram has a base of 27 m and a perpendicular height of 8 m. A triangle has the same area and a perpendicular height of 12 m. Find the triangle's base. Explain how you used the equal areas.

WORK SPACE AND ANSWER

ANSWER KEY

Shape Space Mission

GRADE 6 · 6.MG.2.b

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the perimeter of the triangle in the figure.	**24 cm**
2	Find the perimeter of the parallelogram in the figure.	**36 cm**
3	A triangle has a base of 16 m and a perpendicular height of 7 m. Find its area.	**56 m^2**
4	A parallelogram has a base of 9 cm and a perpendicular height of 15 cm. Find its area.	**135 cm^2**
5	A triangle has side lengths of 19 in., 23 in., and x in. Its perimeter is 57 in. Find x.	**15 in.**
6	A triangle has a base of 24 yd and a perpendicular height of 5 yd. Find its area.	**60 yd^2**

PART 2 · APPLY IT

1. **Area: 336 cm^2; perimeter: 88 cm** Multiply 28 by 12 for the area. Add the four sides, or calculate 2 × (28 + 16), for the perimeter.
2. **88 m** Add the three side lengths: 25 + 29 + 34 = 88.

CHALLENGE

36 m; the parallelogram's area is 27 × 8 = 216 m^2. For the triangle, 1/2 × base × 12 = 216, so 6 × base = 216 and the base is 36 m.

Accept equivalent equation work and correct units. For the challenge, accept a clear explanation that sets the triangle's area equal to 216 m^2.