

Perimeter Puzzle Path

Add side lengths, find missing sides, and compare rectangles.

GRADE 3 • 3.MD.D.8

CCSS.Math.Content.3.MD.D.8 "Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length..."

NAME _____

DATE _____

FIND THE PERIMETER

Perimeter is the distance around the outside of a shape. Add the lengths of all the sides. For a rectangle, the opposite sides have equal lengths.

WORKED EXAMPLE

A rectangle is 11 cm long and 4 cm wide. What is its perimeter?

1. Write each side: $11 + 4 + 11 + 4$.
2. Add: $11 + 4 + 11 + 4 = 30$.
3. The perimeter is 30 cm.

Answer: 30 cm

PRACTICE 6 problems

- 1** A triangle has side lengths of 5 cm, 8 cm, and 9 cm. What is its perimeter?

ANSWER _____

- 2** A rectangle is 12 cm long and 5 cm wide. What is its perimeter?

ANSWER _____

- 3** A triangle has a perimeter of 26 cm. Two sides are 8 cm and 6 cm. What is the missing side length, x ?

ANSWER _____

- 4** A rectangle has a perimeter of 28 cm. Its length is 9 cm. What is its width, x ?

ANSWER _____

- 5** Rectangle A is 9 cm by 5 cm. Rectangle B is 8 cm by 6 cm. Do the rectangles have the same perimeter? Do they have different areas?

ANSWER _____

- 6** Rectangle A is 8 cm by 3 cm. Rectangle B is 12 cm by 2 cm. Do the rectangles have the same area? Do they have different perimeters?

ANSWER _____

APPLY IT Show your work

- 1** Maya is putting ribbon around the edge of a rectangular poster. The poster is 13 inches long and 6 inches wide. How many inches of ribbon does she need?

WORK SPACE

ANSWER _____

- 2** A rectangular game mat has a perimeter of 38 cm. One long side is 12 cm. What is the length of each short side?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Find three different rectangles with whole-number side lengths and a perimeter of 36 cm. Each rectangle must have a different area. List the side lengths and area of each rectangle.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A triangle has side lengths of 5 cm, 8 cm, and 9 cm. What is its perimeter?	22 cm
2	A rectangle is 12 cm long and 5 cm wide. What is its perimeter?	34 cm
3	A triangle has a perimeter of 26 cm. Two sides are 8 cm and 6 cm. What is the missing side length, x?	12 cm
4	A rectangle has a perimeter of 28 cm. Its length is 9 cm. What is its width, x?	5 cm
5	Rectangle A is 9 cm by 5 cm. Rectangle B is 8 cm by 6 cm. Do the rectangles have the same perimeter? Do they have different areas?	Yes. Both perimeters are 28 cm. Yes. Rectangle A has an area of 45 cm^2, and Rectangle B has an area of 48 cm^2.
6	Rectangle A is 8 cm by 3 cm. Rectangle B is 12 cm by 2 cm. Do the rectangles have the same area? Do they have different perimeters?	Yes. Both areas are 24 cm^2. Yes. Rectangle A has a perimeter of 22 cm, and Rectangle B has a perimeter of 28 cm.

PART 2 • APPLY IT

- 38 inches** Add all four sides: $13 + 6 + 13 + 6 = 38$. Maya needs 38 inches of ribbon.
- 7 cm** The two long sides total 24 cm, so 14 cm are left for the two short sides. Each short side is 7 cm.

CHALLENGE

Possible answer: 1 cm by 17 cm, area 17 cm^2 ; 2 cm by 16 cm, area 32 cm^2 ; 3 cm by 15 cm, area 45 cm^2 .

Accept any correct order when students add side lengths. For the challenge, accept any three whole-number rectangles with a perimeter of 36 cm and three different areas.