

Square Space Quest

Find the area and perimeter of squares.

GRADE 4 • 4.MG.3.c

4.MG.3.c "Determine the area and perimeter of a square when given the measure of one side (in whole number units), with and without models."

NAME _____

DATE _____

SQUARE RULES

A square has 4 equal sides. To find perimeter, add all 4 sides, or multiply the side length by 4. To find area, multiply the side length by itself.

WORKED EXAMPLE

A square has a side length of 7 units. Find its area and perimeter.

1. Perimeter: $7 + 7 + 7 + 7 = 28$ units.

2. Area: $7 \times 7 = 49$ square units.

**Answer: Area = 49 square units;
Perimeter = 28 units.**

PRACTICE 6 problems

1 Use the model. Each small square is 1 square unit.  Find the area and perimeter of the square.

ANSWER _____

2 A square has a side length of 5 units. Find its area and perimeter.

ANSWER _____

3 A square has a side length of 8 units. Find its area and perimeter.

ANSWER _____

4 A square has a side length of 9 units. Find its area and perimeter.

ANSWER _____

5 A square has a side length of 2 units. Find its area and perimeter.

ANSWER _____

6 A square has a side length of 10 units. Find its area and perimeter.

ANSWER _____

APPLY IT Show your work

- 1** Noah is making a square photo collage. Each side of the collage is 6 inches long. What is the area of the collage? What is the perimeter around its edge?

WORK SPACE

ANSWER _____

- 2** A square game board has sides that are 11 centimeters long. What is the area of the board? What is the perimeter of the board?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A square garden has a side length of 12 meters. Kai says the area is 48 square meters because $12 \times 4 = 48$. Find the garden's area and perimeter. Explain why Kai's area answer is not correct.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Use the model. Each small square is 1 square unit.  Find the area and perimeter of the square.	Area = 9 square units; Perimeter = 12 units.
2	A square has a side length of 5 units. Find its area and perimeter.	Area = 25 square units; Perimeter = 20 units.
3	A square has a side length of 8 units. Find its area and perimeter.	Area = 64 square units; Perimeter = 32 units.
4	A square has a side length of 9 units. Find its area and perimeter.	Area = 81 square units; Perimeter = 36 units.
5	A square has a side length of 2 units. Find its area and perimeter.	Area = 4 square units; Perimeter = 8 units.
6	A square has a side length of 10 units. Find its area and perimeter.	Area = 100 square units; Perimeter = 40 units.

PART 2 • APPLY IT

- Area = 36 square inches; Perimeter = 24 inches.** Multiply 6 by 6 to find the area. Multiply 6 by 4 to find the perimeter.
- Area = 121 square centimeters; Perimeter = 44 centimeters.** Multiply 11 by 11 to find the area. Multiply 11 by 4 to find the perimeter.

CHALLENGE

Area = 144 square meters; Perimeter = 48 meters. Kai used 12×4 , which finds the perimeter. The area is $12 \times 12 = 144$ square meters.

Accept correct area and perimeter values with appropriate units, in either order. For the challenge, accept an explanation that 12×4 finds perimeter and that area is found by multiplying the side length by itself.