

Student Guide

Workshop: Area and Perimeter

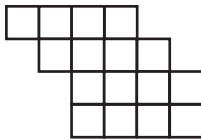
Questions 1–3 (SG pp. 61–62)

1. Shape A: I agree with the area and perimeter.
 Shape B: The area is correct, but the perimeter is incorrect. Maya forgot two lengths when she turned two corners. Also, it should be larger than Shape C because it is more “spread out.”
 Shape C: I agree with the area and perimeter except the unit label for perimeter is wrong. Perimeter is measured in centimeters not square centimeters.
2. Possible response: I agree with John. I like his reasoning. Shape C is the most compact and should have the smallest perimeter.
3. A. Possible response:



Perimeter: $16 \text{ in.} + 16 \text{ in.} + 2 \text{ in.} = 34 \text{ in.}$
 The shape is all spread out so the perimeter is larger.

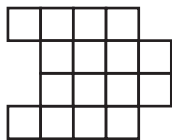
- B. Possible response:



Perimeter: 20 inches

The shape is more compact so the perimeter is smaller.

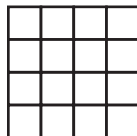
- C. Possible response:



Perimeter: 20 inches

The shape is different than Shape B, but the perimeter is the same.

- D. Possible response:



Perimeter:
 $4 \text{ in.} \times 4 \text{ sides} = 16 \text{ inches}$

The shape is the most compact. Therefore, it has the smallest perimeter.

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Workshop: Area and Perimeter

In this Workshop, you will check your own learning about area and perimeter and decide which kind of practice will help you the most. Use the Self-Check Questions below to check your progress.

Self-Check: Questions 1-3 sq cm is short for square centimeter

1. Maya found the area and perimeter of each of the shapes below. Check her work. Do you agree with her answers? What would you tell Maya to help her improve her work?

Shape A

Area: 9 sq cm
Perimeter: 16 cm

Shape B

Area: 9 sq cm
Perimeter: 11 cm

Shape C

Area: 9 sq cm
Perimeter: $3 \times 4 = 12 \text{ sq cm}$
2. After checking Maya's work, John said he had a quick way to know whether Maya's answer made sense.

Shape C is the most compact, so it has the smallest perimeter. The perimeter in Shape B must be wrong.

Do you agree with John? Why or why not?

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3. Use 16 square-inch tiles to make a shape that fits the clues. Put the tiles together edge to edge. Be prepared to share your thinking.

 - A. Clue 1: My area is 16 square inches.
Clue 2: My perimeter is large.
 - B. Clue 1: My area is 16 square inches.
Clue 2: My perimeter is smaller than the shape in Question A.
 - C. Clue 1: My area is 16 square inches.
Clue 2: My shape is different than Question B, but the perimeter is the same.
 - D. Clue 1: My area is 16 square inches.
Clue 2: My perimeter is the smallest.

When it makes sense, I am using short cuts to find area and perimeter.

I am reasoning about area and perimeter. I'm not just guessing and counting.

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Use the Area and Perimeter Workshop Menu and the Area and Perimeter Practice pages in the Student Activity Book to choose practice.

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