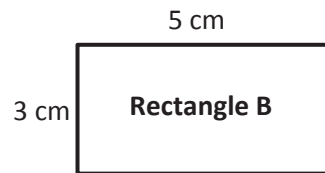
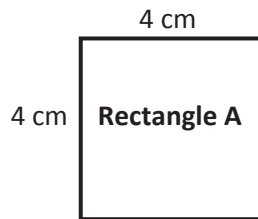


Name \_\_\_\_\_

Date \_\_\_\_\_

1. Use Rectangles A and B to answer the questions below.



- a. What is the perimeter of Rectangle A?

$$p = 4 \times 4 \text{ cm}$$

$$p = 16 \text{ cm}$$

- b. What is the perimeter of Rectangle B?

$$p = 3 \text{ cm} + 5 \text{ cm} + 3 \text{ cm} + 5 \text{ cm}$$

$$p = 16 \text{ cm}$$

- c. What is the area of Rectangle A?

$$A = 4 \text{ cm} \times 4 \text{ cm}$$

$$A = 16 \text{ cm}^2$$

- d. What is the area of Rectangle B?

$$A = 3 \text{ cm} \times 5 \text{ cm}$$

$$A = 15 \text{ cm}^2$$

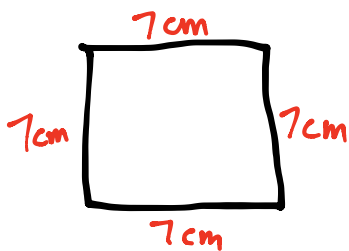
- e. Use your answers to Parts (a–d) to help you explain the relationship between area and perimeter.

The answer in Parts (a–d) show us that there is no relationship between the area and perimeter of rectangles. Two rectangles can have the same perimeter, but have different areas.

2. Each student in Mrs. Dutra's class draws a rectangle with whole number side lengths and a perimeter of 28 centimeters. Then, they find the area of each rectangle and create the table below.

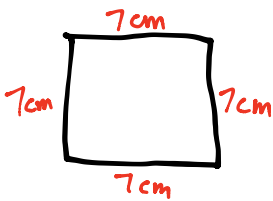
Area in Square Centimeters	Number of Students
13	2
24	1
33	3
40	5
45	4
48	2
49	2

- a. Give two examples from Mrs. Dutra's class to show how it is possible to have different areas for rectangles that have the same perimeter.



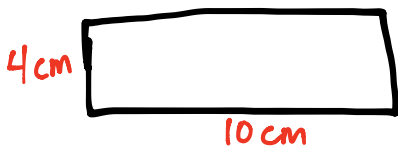
Both rectangles have a perimeter of 28 cm, but they have different areas.

- b. Did any students in Mrs. Dutra's class draw a square? Explain how you know.



Two students drew a square. We know this because the only way to get 49 is  $7 \times 7$ , therefore, the shape with an area of  $49 \text{ cm}^2$  is a square.

- c. What are the side lengths of the rectangle that most students in Mrs. Dutra's class made with a perimeter of 28 centimeters?



The most common rectangle drawn has a perimeter of 28 cm and an area of  $40 \text{ cm}^2$ . This means the side lengths are 4 cm and 10 cm.