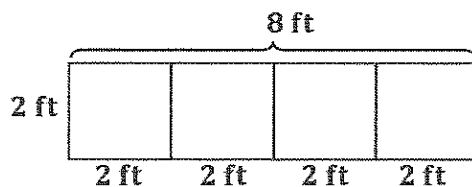


G4-M3-Lesson 2

1. A rectangular pool is 2 feet wide. It is 4 times as long as it is wide.
- a. Label the diagram with the dimensions of the pool.



- b. Find the perimeter of the pool.

$$P = 2 \times (l + w)$$

$$P = 2 \times (8 + 2)$$

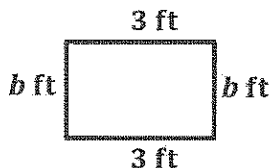
$$P = 2 \times 10$$

$$P = 20$$

I choose one of the 3 formulas I learned in Lesson 1 to solve for perimeter.

The perimeter of the pool is 20 ft.

2. The area of Brette's bedroom rug is 6 square feet. The longer side measures 3 feet. Her living room rug is twice as long and twice as wide as the bedroom rug.
- a. Draw and label a diagram of Brette's bedroom rug. What is its perimeter?



$$A = l \times w$$

$$6 = 3 \times w$$

$$b = 6 \div 3$$

$$b = 2$$

I divide to find the width.

$$P = 2l + 2w$$

$$P = (2 \times 3) + (2 \times 2)$$

$$P = 6 + 4$$

$$P = 10$$

The perimeter of Brette's bedroom rug is 10 ft.

- b. Draw and label a diagram of Brette's living room rug. What is its perimeter?

I draw a diagram of Brette's bedroom rug. Then I double the length and the width to model the living room rug.

$P = 2l + 2w$
 $P = (2 \times 6) + (2 \times 4)$
 $P = 12 + 8$
 $P = 20$

The perimeter of the living room rug is 20 ft.

- c. What is the relationship between the two perimeters?

Sample Answer: The perimeter of the bedroom rug is 10 ft. The perimeter of the living room rug is 20 ft. The living room rug is double the perimeter of the bedroom rug. I know because $2 \times 10 = 20$.

I explain a pattern I notice. I verify my thinking with an equation.

- d. Find the area of the living room rug using the formula $A = l \times w$.

$$A = l \times w$$

The area of the living room rug is 24 square feet.

$$A = 6 \times 4$$

$$A = 24$$

- e. The living room rug has an area that is how many times that of the bedroom rug?

Sample Answer: The area of the bedroom rug is 6 square feet. The area of the living room rug is 24 square feet. 4 times 6 is 24. The area of the living room rug is 4 times the area of the bedroom rug.

- f. Compare how the perimeter changed with how the area changed between the two rugs. Explain what you notice using words, pictures, or numbers.

Sample Answer: The perimeter of the living room rug is 2 times the perimeter of the bedroom rug. But, the area of the living room rug is 4 times the area of the bedroom rug! I notice that when we double each of the side lengths, the perimeter doubles, and the area quadruples.