Algebra 1 -- Module 1: Functions   Name _____

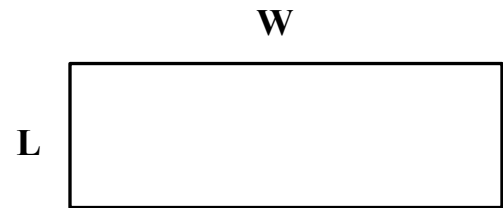F – 4.2: Perimeter and Area of Rectangles Refresher   Pd _____   Date _____

You've learned previously that there are a few different ways to represent the formula for the PERIMETER of a rectangle.

In the diagram to the right,

- **W** represents the horizontal distance (across) the rectangle
- **L** represents the vertical distance (up/down) the rectangle

W

L

Thus, we can represent the PERIMETER of the rectangle in 3 different (yet equivalent) ways:

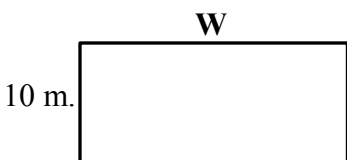$$P = L + W + L + W \quad \text{or} \quad P = 2L + 2W \quad \text{or} \quad P = 2(L + W)$$

1. Write a simple phrase to complete each sentence that explains what each version of the formula tells us to do to find the perimeter of any rectangle:

    a. The 1st version of the formula tells us we can just _____ .

    b. The 2nd version tells us we could _____

    _____.

    c. Or, the 3rd version tells us we could _____

    _____.

2. Use the **P = 2(L + W)** version of the formula to determine the perimeter of the following rectangles (this version tells us to "*add the length and the width, then double that sum*").

    a. A rectangle with a length of 13 cm. and a width of 21 cm.
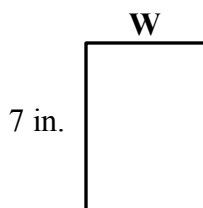
    b.   55 ½ ft.

    44 ½ ft.
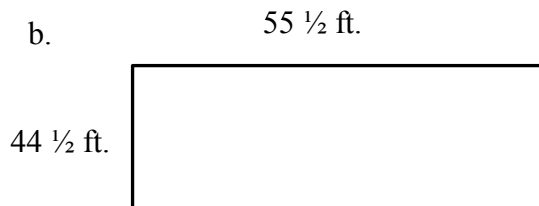
3. In the rectangles below, you are given the length and the perimeter.
    - The **P = 2(L + W)** version of the formula can also be thought of as $\frac{P}{2} = L + W$. This version tells us that the sum of the Length and the Width will equal ***one-half of the Perimeter***.
    - Use this idea (that "the sum of L and W will equal one-half of the Perimeter") to help you determine the width of the following rectangles.

    a. P = 80 meters   b. P = 24 inches   c. P = 20 feet

    W   **W**   **W**

    10 m.   7 in.   3 ½ ft.