**Lesson Objective:** Students will be able to determine the perimeter of a rectangle and manipulate the perimeter formula to solve for unknown variables

Important terminology for perimeter

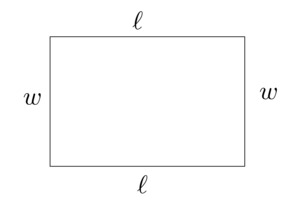
**Rectangle**- a four sided polygon with four right angles

**Perimeter** – the distance around a polygon

**Perimeter formula for a rectangle** --

Perimeter = (2 x length) + (2 x width)=

*P = 2l + 2w or P = 2(l +w)*



Example 1 - Find the perimeter of a yard that is 160 feet long and 78 feet wide

Use one of the formulas for Perimeter

*P = 2l + 2w or P = 2(l +w)*

Plug in the known values and solve

Try it 1:

Find the perimeter of a room that measures 11 feet 2 inches by 9 feet.

Use one of the formulas for Perimeter

Plug in the known values and solve

**Example 2:** You use 56 feet of crown molding to finish a rectangular room. One side of the room is 15 feet long. How long can the other side of the room?

Use the formula for perimeter

To solve for an unknown variable

Example: 3x + 10 = 25

1) Combine any like terms on each side of the equation

2) Locate the term with the variable (in this example, the 3x)

3) Get the variable term by itself by “doing the opposite math” to both sides of the equation (the 10 is being ADDED to the 3x, so you will SUBTRACT 10 from both sides)

3x +10=25

-10 -10

3x=15

4) \*\*Finally the get the variable by itself by dividing both sides of the equation by the number in front of the variable

3x=15

3 3

x=5

The solution is x = 5

*P = 2l + 2w*

Plug in the known values and solve

Try it 2: Bill uses 250 feet of fencing to enclose his garden. One side is 55 feet long. How long is the other side?

Example 3:

A rectangle has a perimeter of 78 inches. The length is 9 inches longer than the width. What is the length and width of the rectangle?

P = 2w + 2l

Check your answer:

Try it 3:

A rectangle has a perimeter of 34 feet. The width is 3 feet shorter than the length. What are the lengths of the sides of the triangle?

P = 2w + 2l

Check your answer: