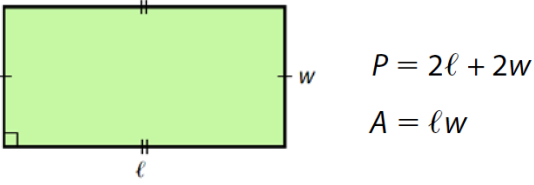
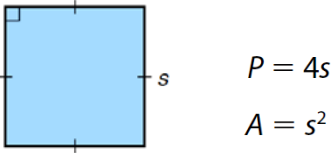
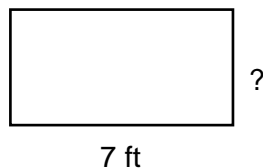


**Worksheet 1-5: Finding Missing Sides of Rectangles and Squares**

Rectangle	Square
	
<p><b>Steps for determining the missing side-length of a rectangle or square:</b></p> <ol style="list-style-type: none"> <li>1. Read the question and examine any given figure carefully</li> <li>2. Identify all information given in the question</li> <li>3. Determine what unknown information is required to solve the problem</li> <li>4. Based on what is given and what is required, identify the appropriate formula</li> <li>5. Substitute all given information into the formula to solve for the unknown</li> </ol>	

**Scenario 1: Determine Missing Side of a Rectangle Given Its Perimeter**

The perimeter of the rectangle is 22 ft. Determine the length of the unknown side.



Perimeter = 22 ft  
 Length = 7 ft  
 Width = ?

$$\text{Perimeter} = 2l + 2w = 22$$

$$2(7) + 2w = 22$$

$$14 + 2w = 22$$

$$2w = 22 - 14$$

$$2w = 8$$

$$\frac{2w}{2} = \frac{8}{2}$$

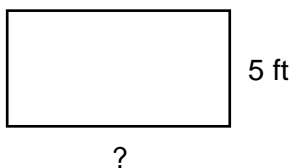
$$w = 4$$

*Let's subtract to get rid of the two lengths from the perimeter, so we have the total of the **two** widths! Then divide to get only **one** width.*

The width is 4 ft.

**Scenario 2: Determine Missing Side of a Rectangle Given Its Area**

The area of the rectangle is 35 ft<sup>2</sup>. Determine the length of the unknown side.



Area = 35 ft<sup>2</sup>  
 Length = ?  
 Width = 5 ft

$$\text{Area} = lw = 35$$

$$l(5) = 35$$

$$5l = 35$$

$$\frac{5l}{5} = \frac{35}{5}$$

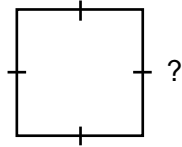
$$l = 7$$

*Five lengths equal 35. Divide to get only **one** length.*

The length is 7 ft.

**Scenario 3: Determine Missing Side of a Square Given Its Perimeter**

The perimeter of the square is 32 in. What is the length of each side?



$$\text{Perimeter} = 4s = 32$$

$$\frac{4s}{4} = \frac{32}{4}$$

$$s = 8$$

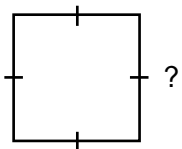
$$\text{Perimeter} = 32 \text{ in}$$

$$\text{Side Length} = ?$$

The length of each side is 8 in.

**Scenario 4: Determine Missing Side of a Square Given Its Area**

The area of the square is  $25 \text{ m}^2$ . What is the length of each side?



$$\text{Area} = s^2 = 25$$

$$\sqrt{s^2} = \sqrt{25}$$

$$s = 5$$

$$\text{Area} = 25 \text{ m}^2$$

$$\text{Side Length} = ?$$

The length of each side is 5 m.

Square root is the opposite math operation of Square. **Take the square root of 25 to find out what times itself equals 25.**

**Challenge:**

Jane has two squares of different sizes. The area of one square is  $8 \text{ cm}^2$ . The area of the other square is two times bigger. What is the side length of the bigger square? (Hint: Find the area of the bigger square first using the area of the smaller square.)