

## Solving Proportion Word Problems

Emily enlarged the size of a photo to a height of 18 in. What is the new width if it was originally 2 in tall and 1 in wide?

Solution:

Step One: State the word ratio with the numerical ratios! Make a «Let» Statement:

Let  $x$  be the new width.

Height : Width

2 : 1

18:  $x$

Step Two: Set up the proportion such that the  $x$  is located (for convenience) at the top left.

$$\frac{x}{18} = \frac{1}{2}$$

Step Three: Use algebra to isolate and therefore solve for  $x$ .

$$\frac{18x}{18} = \frac{(18)(1)}{2}$$

$$x = 9 \text{ in}$$

Step Four: Make a conclusion statement.

The new width will be 9 inches.

1. A frame is 9 in wide and 6 in tall. If it is reduced to a width of 3 in then how tall will it be?

2. The money used in Saudi Arabia is called the Riyal. The exchange rate is 4 Riyals to \$1. Find how many Riyals you would receive if you exchanged \$5.

3. Josue bought one bulb of elephant garlic for \$2. How many bulbs can Timothy buy if he has \$12?

4. Natalie bought one bunch of fennel for \$2. How many bunches can Stephanie buy if she has \$6?

5. A triangle is 20 in tall and 5 in wide. If it is reduced to a width of 1 in then how tall will it be?

6. One bulb of elephant garlic costs \$2. How many bulbs of elephant garlic can you buy for \$14?