

Solve Proportions using Factor of Change

Mental Math Strategy

When to use this strategy: Use this strategy when you see that the numerator, or denominator, has changed by a factor (been multiplied by something).

How to use this strategy: Recall that a proportion is a fraction equal to a fraction and usually you know 3 of the 4 numbers. When you see that the numerator has been multiplied by something, multiply the denominator by the same thing, to find the unknown. (Similarly, if you see that the denominator has been multiplied by something, multiply the numerator by the same thing, to find the unknown.) This works on top or bottom and going left or right.

Examples: Solve $\frac{5}{3} = \frac{x}{12}$. $x = 20$. (The factor is 4.)

Solve $\frac{11}{7} = \frac{55}{m}$. $m = 35$. (The factor is 5.)

Use this (new) strategy on the following:	
1.) Solve $\frac{x}{30} = \frac{7}{10}$	2.) The Smith family used 25 gallons of gas for the first 500 miles of their trip. How many gallons will they have used after traveling 1500 more miles?
3.) Solve $\frac{45}{81} = \frac{x}{9}$	4.) The local bakery can bake 15 loaves of bread in 1 hour. How many loaves of bread can they make in 4 hours?

Use any strategy you know on the following:	
5.) If you make the following three deposits in your savings account: \$413, \$209, \$303. Estimate the total deposit.	6.) Your dog's food costs \$12.00 for the 15 lb. bag. How much does the 45 lb. bag cost?
7.) Solve: $60 = 4w$	8.) Find the area of a rectangle that is .9 m by 3 m.