

Hints for Solving Proportions

In preparing to solving proportions, we're going to be practicing our cross multiplying. Cross multiplying is not the same as cross cancelling, so please be very careful with this idea. Cross cancelling is what we do when we are multiplying fractions and are simplifying them before doing our final multiplication. To cross multiply, we need to have two fractions that are set equal to one another.

To cross multiply, we need to make a heart-shape.

$$\frac{2}{8} = \frac{3}{12}$$
$$12 \cdot 2 = 8 \cdot 3$$

$$24 = 24$$

So, these fractions are equivalent.

Proportions can come in several formats: whole numbers, fractions, and decimals.

1. For whole numbers, it's easier to leave our answers in fraction or mixed number format, but it really depends on what the problem asks for.

Example: $\frac{3}{5} = \frac{6}{10}$

2. For decimal numbers, we should leave answers in decimal format.

Example: $\frac{0.26}{0.39} = \frac{1.3}{1.9}$

3. For fractions/mixed numbers, we should leave numbers in fraction/mixed number format.

Example: $\frac{28}{17} = \frac{9\frac{1}{3}}{5\frac{2}{3}}$

4. If a proportion contains both fractions and decimal numbers, then it's a toss-up. Many times, it's more accurate to change all decimals to fractions/mixed numbers and work it that way than it is to change the fractions to decimals. The only time we can accurately change the fractions to decimals is when the fraction will result in a terminating decimal. (The denominator is made up of 2s and/or 5s)

Example:

$$\frac{3.75}{1\frac{1}{4}} = \frac{7.5}{2\frac{1}{2}}$$

Fraction Method:

Decimal Method:

These same methods are going to be useful when we start solving proportions.