

Aim: What are proportions and proportional relationships?

Date _____

Do now: In your own words, what is a proportion?

Proportion: _____

There are two ways to solve a proportion

| Equivalent Ratios/Fractions (SOMETIMES works) | Algebraic Cross Products (ALWAYS works) |
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| | |

Solve for the variable:

1. $\frac{3}{8} = \frac{x}{24}$

2. $\frac{x}{20} = \frac{6}{8}$

3. $\frac{4}{6} = \frac{x}{15}$

4. $\frac{12}{x} = \frac{4}{3}$

$$5. \frac{\frac{1}{4}}{\frac{8}{3}} = \frac{\frac{9}{2}}{b}$$

$$6. \frac{2}{a} = \frac{4}{a-7}$$

$$7. \frac{7}{b+5} = \frac{10}{5}$$

$$8. \frac{5}{6} = \frac{7n+9}{9}$$



Two ratios are equivalent/proportional if _____

Are the following relationships proportional/equivalent or non-proportional/non-equivalent?

$$(1) \frac{2}{6} = \frac{3}{12}$$

$$(2) \frac{2}{9} = \frac{6}{27}$$

3) One theater charged you \$5.00 for two boxes of popcorn. Another theater charged you \$7.50 for three boxes.

4) On the first day it took 3.5 hours to drive 175 miles. On the next day it took 5 hours to drive 200 miles.

5) Tim painted 150 square feet in 2 hours. John painted 200 square feet in 4 hours.

Take-Away

1.) How can you tell whether two ratios form a proportion?

2.) Name two ways to find a missing variable in a proportion.

3.) Which one does not belong: $\frac{4}{10}$ $\frac{2}{5}$ $\frac{3}{5}$ $\frac{6}{15}$