

12/9/19

# Ratios, Rates, Unit Rates

## Warm Up

$$\textcircled{1} \quad 6x - 1 = 3(2x + 4) - 1$$

$$6x - 1 = 6x + 12 - 1$$

$$\begin{array}{r} 6x - 1 = 6x + 11 \\ -6x \quad -6x \\ \hline -1 \neq 11 \end{array}$$

no solutions

$$\textcircled{2} \quad 10x - 2 - 6x = 2(2x - 1)$$

$$4x - 2 = 4x - 2$$

$$\begin{array}{r} 4x - 2 = 4x - 2 \\ -4x \quad -4x \\ \hline -2 = -2 \end{array}$$

$$-2 = -2$$

infinitely many

**Ratio** = a comparison of two numbers

$$\frac{2}{3}$$

$$2:3$$

2 to 3

Write 3 different ways (reduce)

$$\frac{4}{6} = \frac{2}{3}$$

6 dogs : 5 cats

$$\frac{6 \text{ part}}{5 \text{ part}}$$

$$6:5$$

6 to 5

Fraction of dogs  
 $\frac{6 \text{ part}}{11 \text{ whole}}$

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Rate = a comparison of two numbers  
using different units of measure.

$$\frac{\$75}{3 \text{ hours}}$$

$$\frac{120 \text{ miles}}{2 \text{ hours}}$$

$$\frac{100 \text{ miles}}{4 \text{ gallons}}$$

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Unit Rate = rate with 1 as one  
of the numbers

$$\frac{\$75}{3 \text{ hours}} = \frac{\$25}{1 \text{ hour}}$$

$$\frac{120 \text{ miles}}{2 \text{ hours}} = \frac{60 \text{ miles}}{1 \text{ hour}}$$

$$\frac{100 \text{ miles}}{4 \text{ gallons}} = \frac{25 \text{ miles}}{1 \text{ gallon}}$$