

Algebra 1

- Warm Up
- Check HW
- Notes on 3.4 Ratio & Proportions
- Classwork/Homework

OBJECTIVE

Students will be able to ratios & rates and solve proportions.

Warm Up

Solve each of these.

$$3 - 5(2x - 1) + 6 = 6(x - 3)$$

$$\frac{5x + 6}{5} - 3 = 2(x + 2)$$

Solving Proportions

$$\frac{x}{5} = \frac{12}{6}$$

$$\frac{18}{m} = \frac{5}{8}$$

$$\frac{3}{10} = \frac{10}{x}$$

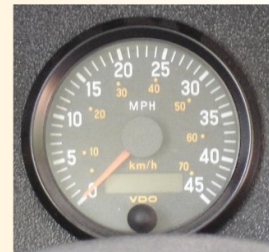
Solving Multi-Step Proportions

$$\frac{2x + 3}{4} = \frac{3x - 1}{4}$$

$$\frac{y - 15}{y + 4} = \frac{35}{7}$$



Using Unit Rates



Prices of Apple Cider

$$\$1.29 - 16 \text{ oz.} \longrightarrow \frac{\text{cost}}{\text{ounces}} \longrightarrow \frac{1.29}{16} =$$

$$\$1.89 - 32 \text{ oz.} \longrightarrow \frac{\text{cost}}{\text{ounces}} \longrightarrow \frac{1.89}{32} =$$

$$\$2.89 - 64 \text{ oz.} \longrightarrow \frac{\text{cost}}{\text{ounces}} \longrightarrow \frac{2.89}{64} =$$

You Try!

1. Main Street florist sells two dozen roses for \$24.60. Flowers for You Florist sells six roses for \$7.50. Find the unit rate for each. Which florists has the lower cost per rose?
2. At Barber Depot, I can buy a 12 pack of Coke for \$3.29. At Grants Groceries, I can buy a 24 pack of Coke for \$6.11. Find the unit rate for each. Which place has the lower cost per can?

Using Unit Rates

$$\text{distance} = \text{rate} * \text{time} \qquad d = rt$$

In 2004, Lance Armstrong raced in the tour de France, completing the 3391 km course in about 83.6 hours. Find Lance's unit rate, which is his average speed. Write a rule to describe the distance he cycles d , as a function of time.

Use a distance function to find out how long it took him to bike 1289 km.

Converting Rates

A cheetah ran 300 feet in 2.92 seconds. What was the cheetah's average speed in MILES per HOUR?

$$\frac{300 \text{ ft}}{2.92 \text{ sec}} \cdot \frac{1 \text{ mile}}{5280 \text{ ft}} \cdot \frac{60 \text{ sec}}{1 \text{ min}} \cdot \frac{60 \text{ min}}{1 \text{ hour}}$$

$$= 70 \text{ mi/hr}$$

Convert...

$$\$5.85/\text{hr} \longrightarrow \$/\text{year}$$

If a snail moves at a rate of 0.4 in/min, find its movement rate in ft/week.

Classwork/Homework

Pg 145 #5-8, 22-36.