

Algebra 1

Chapter 2
Section 2-6

Vocabulary

Ratio	Comparison of two numbers by division, written as a fraction
Rate	Ratio comparing quantities of different units
Unit Rate	Rate with a denominator of 1
Conversion Factor	Ratio of two equivalent measures in different units

Ratio Comparison



Sub Planet has a deal for a \$4.95 foot-long sandwich. Awesome Sandwich Hut sells 8-inch subs for \$3.50. Which place is giving a better deal?

Convert to unit rates to compare.

$$\frac{\$4.95}{12 \text{ in.}} = \frac{\$0.4125}{1 \text{ in.}} \quad . . . \quad \frac{\$3.50}{8 \text{ in.}} = \frac{\$0.4375}{1 \text{ in.}}$$

Converting Units

Convert \$7.23 to cents

Convert 8.7 meters to inches

Convert 19.5 days to minutes

Convert 128 ounces to pounds

Rate Conversions

Heinrich and George are arguing about who has driven the fastest. George says he has driven 93 miles per hour. Heinrich boasts that he has driven 161 kilometers per hour. Who has driven faster?

$$\frac{161 \text{ km}}{1 \text{ hour}} \cdot \frac{0.624 \text{ mil}}{1 \text{ km}} \approx \frac{100.5 \text{ mil}}{1 \text{ hour}}$$

Heinrich has driven faster than George.

Rate Conversions

Lightning Jones ran a 40-yard sprint at football tryouts in 4.4 seconds. How fast was he running in miles per hour?

$$\frac{40 \text{ yd}}{4.4 \text{ sec}} \cdot \frac{3 \text{ ft}}{1 \text{ yd}} \cdot \frac{1 \text{ mil}}{5280 \text{ ft}} \cdot \frac{3600 \text{ sec}}{1 \text{ hour}} \approx \frac{18.6 \text{ mi}}{1 \text{ hour}}$$