

Using Rates

Remember, for rates, we have to label. There are two different types of rates we're going to be dealing with.

1. Writing rates as fractions in lowest terms.
2. Writing a unit rate.

1) Writing a rate as a fraction in lowest terms.

This is going to be used most frequently when we start doing word problems with proportions. It doesn't seem very instinctive at first, but it comes in very handy. All we do here is write our rate as a fraction and simplify it (reduce it).

Example: Write 155 miles in 2 hours as a fraction in lowest terms.

$$\frac{155 \text{ miles}}{2 \text{ hours}} \leftarrow \text{This cannot be reduced, so we leave it.}$$

Example: Write 320 miles on 12 gallons as a fraction in lowest terms.

2) Writing a unit rate.

These seem more intuitive because they are used most frequently in the "real world". To do these, we divide out our fraction. (Our denominator becomes "1".)

Example: Write 155 miles in 2 hours as a unit rate.

$$\frac{155 \text{ miles}}{2 \text{ hours}} = 2 \overline{)155.0} = 77.5 \text{ miles per hour (mph)}$$

Example: Write 320 miles on 12 gallons as a unit rate.