

Chapter 6 section 2
Proportions

Proportion:

statement that equates two ratios or rates.

Example:

$$\frac{1}{3} = \frac{2}{6} \qquad \frac{15 \text{ miles}}{2 \text{ hours}} = \frac{30 \text{ miles}}{4 \text{ hours}}$$

$$\frac{1}{3} = \frac{2}{6} \quad \text{Read: one is to three as two is to six.}$$

4 numbers are the terms of the proportion

1 first term
3 second term

2 third term
6 fourth term

Extremes first and fourth term.
Means second and third term.

Note: product of the means equals the product of the extremes for a true proportion.

True/false

$$\frac{2}{3} = \frac{7}{12} \qquad \frac{4}{9} = \frac{12}{27}$$

Solve the proportion

$$\frac{3}{4} = \frac{x}{12} \qquad \frac{2x+1}{15} = \frac{1}{3}$$

If 5 oranges cost \$1.15, what will be the cost of 15 oranges? (assuming an equal rate)

If 7 apples cost \$3.15, how much will 10 apples cost (assuming an equal rate)?

NOTE: when setting up a proportion, be sure that both numerators have the same units and both denominators have the same units.

See page 460 in the book.