

NOTES 8.1: RATIOS & PROPORTIONS WITH APPLICATIONS

Objective: _____

If $\frac{a}{b} = \frac{c}{d}$, then _____.

EXAMPLE 1: Determine whether each pair of ratios forms a proportion.

a) $\frac{4}{6}, \frac{12}{16}$

b) $\frac{3}{5}, \frac{6}{10}$

EXAMPLE 2: Solve each of the following proportions.

a) $\frac{3}{x} = \frac{5}{x+6}$

b) $\frac{x-2}{2} = \frac{x+6}{4}$

You can solve many problems that involve equal ratios/rates by using proportions.

EXAMPLE 3: Solve using a proportion.

a) Josefina sells helium balloons. She charges \$9 for 12 balloons. At this rate, what would she charge for 50 balloons?

b) A photocopy machine copied 50 pages in 1.5 minutes. At this rate, how long will the machine take to copy 90 pages?

c) A recent school bond issue passed with 3 out of every 4 votes in favor of the bond. A total of 2550 people voted against the bond. How many people voted in favor of the bond?