

# Chapter 8 Ratios and Proportions

## 8.4 Writing and Solving Proportions

Pages 418-422

## NOTES (8.4) Writing and Solving Proportions

A **proportion** is an equation that states that two ratios are equivalent.

Example:

$$\frac{2}{3} = \frac{6}{9}$$

“2 is to 3 as 6 is to 9”

Guided Practice pp 420-421

Do # 4-12 even like this (Use equivalent ratios)

7)  $\frac{3}{7} = \frac{a}{21}$        $a = 9$

9)  $\frac{2}{s} = \frac{18}{45}$        $s = 5$

Arrow always points to the variable

#32,34,36 (all 2 pts each)

Do # 22& 24 like this (2 pts)

$$21) \frac{6}{16} = \frac{z}{40}$$

$$z = 12$$

$$\frac{6}{16} = \frac{z}{40}$$

$\xrightarrow{\times 25}$

$$16 \overline{) 40} \\ \underline{32} \\ 80 \\ \underline{80} \\ 0$$

$$\begin{array}{r} 2.5 \\ \underline{6} \\ 12.0 \end{array} z = 12$$

$$25) \frac{80}{100} = \frac{w}{45}$$

$$w = 36$$

sometimes, reduce to solve

$$\frac{8}{100} = \frac{w}{45}$$

$\xrightarrow{-10}$

$$\frac{8}{10}$$

$\xrightarrow{\div 2}$

$$\frac{4}{5} = \frac{w}{45}$$

$\xrightarrow{\times 9}$

$$4 \times 9 = 36$$