

6.1 Ratio & Proportion

Compares 2 things

$$\frac{\# \text{ girls}}{\# \text{ boys}}$$

2 equal ratios

$$\frac{1}{2} = \frac{2}{4}$$

Equivalent Fractions

Fractions that reduce to same #'s (ratio)

$$\frac{1}{4} = \frac{2}{8}$$

$$= \frac{75}{300} = \frac{3}{12} = \frac{25}{100}$$

$$\frac{11}{44}$$

} all reduce to $\frac{1}{4}$

Check if Equal

$$\frac{1}{2} \neq \frac{4}{8} \quad \left. \begin{array}{l} \text{Check} \\ \text{cross-} \\ \text{products} \end{array} \right\}$$

$$2 \cdot 4 = 1 \cdot 8$$

$$8 = 8$$

$$\frac{2}{3} \neq \frac{7}{8}$$

$$2 \cdot 8 = 3 \cdot 7$$

$$16 \neq 21$$

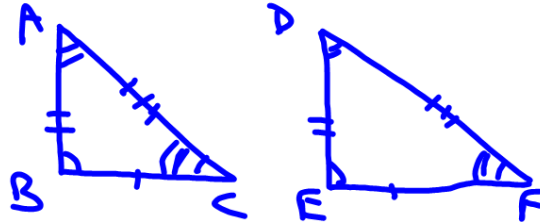
$$\frac{2}{3} \neq \frac{17}{x}$$

$$\frac{2x}{2} = \frac{51}{2}$$

$$x = 25.5$$

Congruent Δ 's

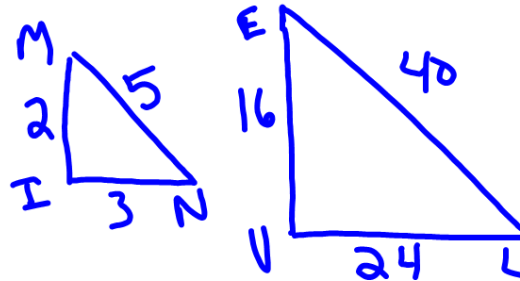
$$Dr. Euil = Dr. Euil \cong$$



$$\Delta ABC \cong \Delta DEF$$

Similar Δ 's 1:8

$$Dr. Euil \sim \text{Mini-Me}$$



$$\Delta MIN \sim \Delta EUL$$

ratio of $\frac{\text{small}}{\text{big}}$

$$\frac{2}{16} = \frac{3}{24} = \frac{5}{40} \quad \left. \begin{array}{l} \text{Reduce} \\ \text{to} \\ \frac{1}{8} \end{array} \right\}$$