

6.1b Proportions & Ratios

Show they are equal { Missing one

$$\frac{2}{3} = \frac{8}{12}$$

$$2 \cdot 12 = 3 \cdot 8$$

$$24 = 24$$

Yup!

$$\frac{5}{10} = \frac{x}{16}$$

$$5 \cdot 16 = 10 \cdot x$$

$$\frac{80}{10} = \frac{10x}{10}$$

$$8 = x$$

You try

$$\frac{1}{y+1} = \frac{2}{3y}$$

$$\frac{1}{2+1} = \frac{2}{3(2)}$$

$$\frac{1}{3} = \frac{2}{6}$$

$$1 \cdot 3y = (y+1) \cdot 2$$

$$1 \cdot 3y = 2(y+1)$$

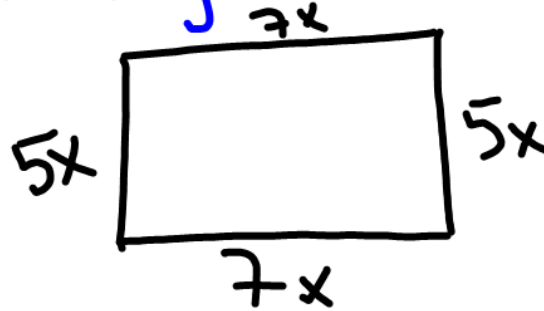
$$3y = 2y + 2$$

$$-2y \quad -2y$$

$$y = 2$$

The perimeter of a room is 48 feet.
 The ratio of length to width is 7:5.
 Find the actual length & width.

1st - Picture



↓
 means
 $7x:5x$

2nd - variables

3rd - Eqn (How relate 48 feet, $7x$ & $5x$?)

all way around = 48

$$5x + 5x + 7x + 7x = 48$$

$$\frac{24x}{24} = \frac{48}{24}$$

$$x = 2$$

length ($7x$) = 14 ft
 width ($5x$) = 10 ft