Clear Learning Target

You will be able to compare ratios and solve proportions.

RATIOS

comparing related values

$\dfrac{2}{3}$ 2:3   2 out of 3

2 to 3

Comparing Ratios

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

*cross products

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

Same!

So, the ratios are equivalent

$$\frac{7}{4}, \frac{91}{52}$$

$$7 \cdot 52 = 364$$

$$4 \cdot 91 = 364$$

yes!

PROPORTIONS

when 2 ratios are set equal

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

Solving Proportions

$$\frac{1}{6} \diagdown \frac{x}{18}$$

$$6x = 1 \cdot 18$$

$$\frac{6x}{6} = \frac{18}{6}$$

$$\boxed{x = 3}$$

* because ratios are equal, the cross products will be equal, too!

$$\frac{6}{2x} \diagup\!\!\!\!\diagdown \frac{3}{7}$$

$$3 \cdot 2x \qquad 6 \cdot 7$$

$$\frac{6x}{6} = \frac{42}{6}$$

$$\boxed{x = 7}$$

$$\frac{(x-2)}{14} = \frac{2}{7}$$

$$14 \cdot 2 = 7(x-2)$$

$$28 = 7x - 14$$

$$+14 \qquad\qquad +14$$

$$\frac{42}{7} = \frac{7x}{7}$$

$$\boxed{6 = x}$$

$$\frac{x+4}{5} \diagup \frac{3}{8}$$

$$15 = 8(x+4)$$

$$15 = 8x + 32$$

$$-32 \qquad\qquad -32$$

$$\frac{-17}{8} = \frac{8x}{8} \longrightarrow \boxed{x = \frac{-17}{8}} = -2.13$$

closish