

Solving for x: Lesson 12

Solving Proportions: Worksheet 1

Name: _____

MATH ALL

Check diagonals of

$$\frac{5}{7} = \frac{10}{14}$$

$$7 \cdot 10 = 70$$

$$5 \cdot 14 = 70 \quad \checkmark$$

Solve:

$$\frac{x}{9} = \frac{4}{5}$$
~~$$\frac{5x}{9} = \frac{36}{5}$$~~

$$x = \frac{36}{5}$$

$$\frac{3}{-3} + \frac{6}{x} = 10$$
~~$$\frac{6}{x} = \frac{7}{1}$$~~

$$x = \frac{6}{7}$$

$$\frac{(x-3)}{4} = \frac{x}{6}$$

$$6(x-3) = 4x$$

$$6x - 18 = 4x$$

$$\begin{array}{r} 6x - 18 = 4x \\ -6x \quad -6x \\ \hline -18 = -2x \\ -2 \quad -2 \\ \hline x = 9 \end{array}$$

$$\frac{(2x+1)}{(x-2)} = \frac{5}{3}$$

$$3(2x+1) = 5(x-2)$$

$$6x + 3 = 5x - 10$$

$$\begin{array}{r} 6x + 3 = 5x - 10 \\ -5x \quad -5x \\ \hline x + 3 = -10 \\ -3 \quad -3 \\ \hline x = -13 \end{array}$$

$$\frac{10}{-10} - \frac{3}{x} = 11$$
~~$$\frac{-3}{x} = \frac{1}{1}$$~~

$$x = -3$$

$$\frac{(4x-7)}{5} = \frac{(2x+3)}{8}$$

$$8(4x-7) = 5(2x+3)$$

$$32x - 56 = 10x + 15$$

$$\begin{array}{r} 32x - 56 = 10x + 15 \\ -10x \quad -10x \\ \hline 22x - 56 = 15 \\ +56 \quad +56 \\ \hline 22x = 71 \\ \frac{22x}{22} = \frac{71}{22} \quad x = \frac{71}{22} \end{array}$$

$$\frac{4x}{7} = \frac{-3}{8}$$

$$8 \cdot 4x = 7 \cdot -3$$

$$\frac{32x}{32} = \frac{-21}{32}$$

$$x = \frac{-21}{32}$$

$$\frac{7}{x} + 3 = -4$$

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

$$\frac{-7x}{-7} = \frac{7}{-7} \quad x = -1$$

$$\frac{11}{(9x-2)} = \frac{4}{(2x-1)}$$

$$4(9x-2) = 11(2x-1)$$

$$36x - 8 = 22x - 11$$

$$\frac{-22x}{-22x} \quad \frac{-22x}{-22x}$$

$$14x - 8 = -11$$

$$\frac{+8}{+8} \quad \frac{+8}{+8}$$

$$\frac{14x}{14} = \frac{-3}{14}$$

$$x = -\frac{3}{14}$$

$$\frac{4x}{9} = \frac{(x-3)}{10}$$

$$40x = 9(x-3)$$

$$40x = 9x - 27$$

$$\frac{-9x}{-9x} \quad \frac{-9x}{-9x}$$

$$\frac{31x}{31} = \frac{-27}{31}$$

$$x = -\frac{27}{31}$$