

10/22/18

$$5x + 3 = 6x - 2$$

$$5x + 3 = 6 - 2x$$

$$7x = 3$$

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$$5y + 1 = 8y - 5 + 6y$$

$$\Rightarrow 5y + 1 = 14y - 5$$

$$\Rightarrow 5y - 14y = -1 - 5$$

$$\frac{-9y}{-9} = \frac{-6}{-9}$$

$$\Rightarrow y = \frac{2}{3}$$

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$$9x - 10 = 5x + 2(2x - 5)$$

$$\Rightarrow 9x - 10 = 5x + 4x - 10$$

$$\Rightarrow 9x - 10 = 9x - 10, \text{ true statement}$$

$$\frac{10x+3}{5x+6} = \frac{1}{2}$$

$$\Rightarrow 5x+6 = 2(10x+3)$$

$$\Rightarrow 5x+6 = 20x+6$$

$$\Rightarrow 0 = 5x$$

$$\Rightarrow x = 0$$

$$\frac{5x-4}{5x+4} = \frac{2}{3}$$

$$\Rightarrow (5x+4)2 = 3(5x-4)$$

$$\Rightarrow 10x+8 = 15x-12$$

$$\Rightarrow 20 = 5x$$

$$\Rightarrow x = 4$$

$$\frac{100-4x}{3} = \frac{5x+6}{4} + 6$$

$$\Rightarrow \frac{100-4x}{3} = \frac{5x+6}{4} + \frac{6}{1}$$

$$\Rightarrow \frac{100-4x}{3} = \frac{5x+6+24}{4}$$

$$\Rightarrow \frac{100-4x}{3} = \frac{5x+30}{4}$$

$$\Rightarrow 400-90 = 15x + 16x$$

$$\Rightarrow \frac{310}{31} = \frac{31x}{31}$$

$$\Rightarrow x = 10$$

$$\frac{x}{x+4} + \frac{4}{x+4} = 2, \text{ Note: } x \neq 4$$

$$\Rightarrow \frac{x+4}{x+4} = 2$$

$\Rightarrow 1 \neq 2$ , a false statement, so there is no solution to this problem

Alternatively,

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

$$\Rightarrow x+4 = 2(x+4)$$

$$\Rightarrow x+4 = 2x-8$$

$$\Rightarrow -4 = x \text{ still no solution}$$