

August 24, 2015

$$\boxed{3} \frac{1}{4} = \frac{(3 \cdot 4) + 1}{4} = \frac{12 + 1}{4} = \frac{13}{4}$$

$$3 \frac{1}{4} = \frac{13}{4}$$

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Prep.

LCD: 3

$$\# \Rightarrow \frac{3}{1} \cdot \frac{5(y-4)}{3} = 2y - 2$$

$$5y - 20 = 6y - 6$$

$$-5y + 5y + 6 = -5y + 6$$

$$-14 = y$$

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LCD: $(2x-1)(x-1)$

$$\frac{3}{2x-1} + 4 = \frac{7}{x-1} + 2$$

$$\frac{3(x-1)}{(2x-1)(x-1)} + \frac{4(2x-1)(x-1)}{(2x-1)(x-1)} = \frac{7(2x-1)}{(2x-1)(x-1)} + \frac{2(2x-1)(x-1)}{(2x-1)(x-1)}$$

$$3x - 3 + [2x^2 - 2x \cdot x + 4] = 14x - 7 + [2x^2 - 2x \cdot x + 2]$$

$$3x - 3 + [2x^2 - 2x + 4] = 14x - 7 + [2x^2 - 2x + 2]$$

$$3x - 3 + 2x^2 - 2x + 4 = 14x - 7 + 2x^2 - 2x + 2$$

$$8x^2 - 9x + 1 = 4x^2 + 8x - 5$$

$$-4x^2 - 8x + 6 = 0$$

$$4x^2 - 17x + 6 = 0$$

Use the Quadratic Formula

$$x = \frac{17 \pm \sqrt{17^2 - 4 \cdot 4 \cdot 6}}{2 \cdot 4}$$

$$4 \left(\frac{17 + \sqrt{145}}{8} \right) - 17 \left(\frac{17 + \sqrt{145}}{8} \right) + 6 = 0$$

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