

August 26, 2015

#1) $1\frac{3}{5} + 2$ *Convert to improper*

$$\frac{8}{5} + \frac{2}{1} = \frac{8+2}{5+1}$$

$$\frac{8}{5} = \frac{(1 \cdot 5) + 3}{5} = \frac{5+3}{5} = \frac{8}{5}$$

$$\frac{8}{5} = 5 \frac{1 \cdot 5}{5} = \frac{18}{5}$$

$$= \frac{18}{5} \cdot \frac{13}{13} = \frac{18}{13}$$

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#2) $\frac{2}{3x-4} + \frac{1}{3x-4} = \frac{-3}{1}$ *LCD: 3x-4*

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

$$6x - 8 + 1 = -9x + 12$$

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#3) $2pW - 4 = 2L + 2W$ *solve for W*

$$2pW - 2W = 2L + 4$$

$$W(2p-2) = 2L + 4$$

$$W = \frac{2L+4}{2p-2}$$

$$W = \frac{2(L+2)}{2(p-1)}$$

$$W = \frac{L+2}{p-1}$$

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4.a

$$\sqrt{(x-2)^2} = \pm\sqrt{25}$$

$$x-2 = \pm 5$$

$$x = \pm 5 + 2$$

$$\textcircled{1} x = 5 + 2 = 7$$

$$\textcircled{2} x = -5 + 2 = -3$$

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4.b

$$\frac{2 \left(\frac{1}{2}x - \frac{2}{3} \right)^2}{2} = \frac{9}{16}$$

$$\left(\frac{1}{2}x - \frac{2}{3} \right)^2 = \frac{9}{16} \cdot \frac{1}{2} = \frac{9}{16}$$

$$\sqrt{\left(\frac{1}{2}x - \frac{2}{3} \right)^2} = \pm \sqrt{\frac{9}{16}} = \pm \frac{3}{4}$$

$$1 \cdot \left(\frac{1}{2}x - \frac{2}{3} \right) = \pm \frac{3}{4}$$

$$6x - 8 = \pm 9$$

$$\frac{6x}{6} = \frac{\pm 9 + 8}{6}$$

$$x = \pm \frac{9}{6} + \frac{8}{6}$$

$$x = \pm \frac{3}{2} + \frac{4}{3}$$

$$\textcircled{1} x = \frac{3}{2} + \frac{4}{3} = \frac{9+8}{6} = \frac{17}{6}$$

$$\textcircled{2} x = -\frac{3}{2} + \frac{4}{3} = \frac{-9+8}{6} = -\frac{1}{6}$$

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#2.d *LCD: 15*

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

$$6 \left(x - \frac{1}{2} \right) = 5 \left(x + \frac{1}{2} \right)$$

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

$$2 \left(x = \frac{5}{2} + 3 \right)$$

$$2x = 5 + 6$$

$$\frac{2x}{2} = \frac{11}{2}$$

$$x = \frac{11}{2}$$

$$\left\{ \frac{11}{2} \right\}$$

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