

Warm-Up

Monday, February 15, 2016

Variables left hand side

a) $20.5 - 2.2x = 7.2x$

$$20.5 - 2.2x - 7.2x = \boxed{7.2x - 7.2x}$$

$$20.5 - 9.4x = 0$$

$$\boxed{20.5 - 20.5} - 9.4x = 0 - 20.5$$

$$\frac{-9.4x}{-9.4} = \frac{-20.5}{-9.4}$$

$$x = 2.2$$

b) $-2x + 7 - 6x = 2x + 1$

$$-2x - 6x + 7 = 2x + 1$$

$$-2x - 6x - 2x + 7 = \boxed{2x - 2x} + 1$$

$$-10x + 7 = 1$$

$$-10x + \boxed{7 - 7} = 1 - 7$$

$$\frac{-10x}{-10} = \frac{-6}{-10}$$

$$x = \frac{6}{10} = 0.6$$

$$\frac{x}{3} + 7 = 9$$

$$\begin{aligned} \frac{x}{3} + 7 - 7 &= 9 - 7 \\ \frac{x}{3} &= 2 \end{aligned}$$

$$x = 6$$

Solving equations with fractions....clear the fractions!!!

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

Review lowest LCM - least common multiple

$$^{(6)}\frac{1x}{2} + ^{(6)}\frac{1x}{3} = ^{(6)}10$$

$$\frac{6x}{2} + \frac{6x}{3} = 60$$

$$3x + 2x = 60$$

$$\frac{5x}{5} = \frac{60}{5} \quad x = 12$$

LCM between 2 and 3
2, 4, 6, 8, 10, 12
3, 6, 9, 12

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

$$\overset{(12)}{\frac{2x}{3}} + \overset{(12)}{9} = \overset{(12)}{\frac{3x}{4}} - \overset{(12)}{6}$$

LCM=12

$$\frac{24x}{3} + 108 = \frac{36x}{4} - 72$$

$$8x + 108 = 9x - 72$$

$$8x - 9x + 108 = \boxed{9x - 9x} - 72$$

$$-1x + 108 = -72$$

$$-1x + \boxed{108 - 108} = -72 - 108$$

$$-1x = -180$$

$$\frac{-1x}{-1} = \frac{-180}{-1}$$

$$x = 180$$

$$\overset{(15)}{\frac{2a}{3}} = \overset{(15)}{\frac{4a}{5}} + \overset{(15)}{7} \quad \text{LCM}$$

$$\frac{30a}{3} = \frac{60a}{5} + 105$$

$$10a = 12a + 105 \leftarrow$$

$$10a - 12a = \boxed{12a - 12a} + 105$$

$$\frac{-2a}{-2} = \frac{105}{-2}$$
$$a = -52.5$$

$$\frac{\overset{(12)}{2x}}{3} + \frac{\overset{(12)}{11}}{4} = 3 - \frac{\overset{(12)}{11x}}{\overset{(12)}{6}}$$

LCM=12

$$\frac{24x}{3} + \frac{132}{4} = 36 - \frac{132x}{6}$$

$$8x + 33 = 36 - 22x$$

$$8x + 22x + 33 = 36 - 22x + 22x$$

$$30x + 33 = 36$$

$$30x + \boxed{33 - 33} = 36 - 33$$

$$\frac{\cancel{30}x}{\cancel{30}} = \frac{3}{30}$$

$$x = \frac{3}{30} = \frac{1}{10} = 0.1$$

$$\overset{(5)}{\frac{2}{5}}(m+4) = \overset{(5)}{\frac{1}{5}}(3m+9)$$

LCM=5

$$\frac{10}{5}(m+4) = \frac{5}{5}(3m+9)$$

$$2(m+4) = 3m+9$$

$$2m+8 = 3m+9$$

$$2m-3m+8 = \boxed{3m-3m} + 9$$

$$-m+8 = 9$$

$$-m+8-8 = 9-8$$

$$-m = 1$$

$$m = -1$$

Homework

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$$m=8 \quad r=\frac{-1}{39} \quad x=\frac{67}{90}$$
$$r=-0.026 \quad x=0.74$$

a) $x = -3^{2/3} = -3.1$ c) $x = 4$

b) $x = 20$

d) $x = 5$

