

Name: _____

Date: _____

Math 8H HW Ch2 Lesson 3 Solving Equations with Fractions and Distributive Property

1. Distribute the term in front of the brackets to each term inside the brackets. Multiply and simplify:

a) $5(2x+4)$	b) $12(3x^2+8)$	c) $12(x-4)+3(4x-5)$
d) $-3(2x^2-15x+11)$	e) $\frac{3}{4}(20x-12)$	f) $\frac{2}{3}(24x^2-18x+27)$

2. Indicate LCD and then multiply all terms by the LCD. Simplify the equation and then solve:

a) $\frac{x}{5} + \frac{2}{3} = \frac{x}{3}$	b) $\frac{x}{2} - \frac{1}{3} = \frac{2}{4}$
c) $\frac{2x}{3} = \frac{x}{2} + 3$	d) $\frac{2x}{3} + \frac{4x}{5} - 2 = \frac{5x}{3} + 3$

3. Solve the following equations for "x"

a) $x - \frac{1}{2} = -\frac{13}{2}$

b) $-4\frac{1}{3} = x + \left(-\frac{1}{3}\right)$

$$\text{c) } -(-4.25) + x = 3$$

$$\text{d) } \frac{1}{6}x - 1 = \frac{2}{3}$$

$$\text{e) } -\frac{7}{4}x + \frac{1}{2} = -\frac{9}{10}$$

$$\text{f) } -27 = 6\left(x + \frac{1}{2}\right)$$

$$\text{g) } -18 = \frac{-2}{5}(15x - 45)$$

$$\text{h) } \frac{-5(2-x)}{3} = 90$$

$$\text{i) } 5 = \frac{3}{4}(3x + 2) - 2x$$

$$\text{j) } 10\left(\frac{1}{2}x - 2\right) - \frac{2}{5}(30 - 5x) = -11$$

$$\text{i) } 4(x + 6) + 2(5 - x) - 2[3 - (a - 2)] = 4$$

$$\text{k) } 7x - 6 = x - 5 + 4x$$

$$\text{l) } 20 - 4x + 3 = 5x - 8 + 2x$$

$$\text{m) } 3(x + 6) + 2x - 6 = 8x - 2(2x - 4)$$

$$\text{n) } 18 - (2x - 5) - 2(x + 2) = 3x + 5$$

$$\text{o) } \frac{1}{3}(3 + 9x) = \frac{7}{4}(28 - 12x)$$

$$\text{p) } \frac{1}{6}(12x - 42) = -\frac{3}{4}(4 - 16x)$$

$$\text{q) } 24 + \frac{1}{6}x = \frac{1}{3}x$$

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

$$\text{s) } \frac{1}{2}x - 6 = \frac{3x}{10} + \frac{x}{8}$$

$$\text{t) } \frac{6(3 - 2x)}{5} = x + 4$$

$$\text{u) } x + 4 = 4[2(8x - 7) + 5x] - 3x$$

4. Challenge: Solve the following

a) $8 + \frac{2}{5}(3x - 1) = -2 + \frac{1}{2}(20 - 3x)$

b) $-0.4(0.5x - 0.4) = 1.3 - 0.6(0.3 - 0.2x)$

c) $2x - 3(4x - 6) = 10 - 3[4(2x - 5) + 4x]$

d) $7x + 2(3x - 5) = 6[5 + 2(2x - 5 + 2x)]$

e) $8 + 2[3x - 2(x - 8x + 5)] = 3(7x + 3) - 3x$

f) $2 - [3x + 2(20x - 4 + 24x + 1)] = 6(2x - 3) - 3x$