

## Math 9 Review – Part 4

### Solving Equations with Rational Coefficients

When an algebraic equation contains fractions (rational expressions), we will remove the denominator(s) by multiplying each term by the **lowest common denominator**.

The lowest common denominator (LCD) is the lowest common multiple that a set of fractions share.

**Example 1:** Solve the following equations. (Eliminate any denominators first.)

a)  $14 = \frac{c}{3}$

b)  $2 - \frac{x}{5} = 3$

c)  $\frac{1}{3}a + 5 = \frac{1}{6}a - 6$

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

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

$$f) \frac{1}{2}(p+1) + \frac{1}{3}(2p+1) = 9$$

$$g) \frac{48}{a} = 6$$

$$h) 2 = \frac{12}{x+4}$$

Name: \_\_\_\_\_

## Solving Equations – Worksheet #4

1. Solve the following equations. Show all of your work.

a)  $\frac{2m}{3} = 8$

b)  $\frac{r}{3} - \frac{r}{6} = 2$

c)  $\frac{2x}{3} - 3 = \frac{x}{4}$

d)  $\frac{12}{x} = -5 + 7$

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

f)  $\frac{2x}{3} - 3x + 21 = 0$

$$g) \frac{2x}{5} + \frac{3}{4} = \frac{4x}{5} - \frac{1}{2}$$

$$h) \frac{10}{x} = -2$$

$$i) \frac{-21}{e} = 7$$

$$j) -6 = \frac{30}{n}$$

$$k) \frac{9}{-r} = 12$$

$$l) \frac{56}{x} = 64$$