

# Algebra I

## Notes 4.4, Part 2 Solving Equations with Rational Coefficients

Review: You solve division equations by using multiplication.

$$\frac{x}{10} = 2$$

$$\frac{y}{-7} = -3$$

$$\frac{z}{8} = -4$$

If a variable has a RATIONAL (fractional) coefficient, MULTIPLY both sides of the equation by the RECIPROCAL OF THE COEFFICIENT to solve the equation.

### Example 1

$$\frac{2}{3}x = 8$$

### Example 2

$$\frac{4}{7}x = 16$$

### Example 3

$$\frac{p}{5} = -4.7$$

### Example 4

$$\frac{-x}{11} = -22$$

**Write the reciprocal for each number.**

1.  $-5$  \_\_\_\_\_

2.  $\frac{5}{6}$  \_\_\_\_\_

3.  $-\frac{2}{3}$  \_\_\_\_\_

4.  $6$  \_\_\_\_\_

**SOLVE EACH EQUATION. Show your work. Box and check your solutions.**

5.  $\frac{4}{5}y = 20$

6.  $\frac{1}{-8}x = -4$

7.  $\frac{p}{-12} = -3$

8.  $\frac{-x}{9} = -6$

9.  $\frac{5}{6}x = 5$

10.  $\frac{r}{3} = -1.8$