Algebra I
Review for Quiz #8

NAME: _____

DATE: _____ HOUR: ____

Reciprocals and Solving Equations with Rational Coefficients

Part I. Determine if each pair of values are **reciprocals**. Answer YES or NO.

1. -3 and $-\frac{1}{3}$ _____

2. .2 and $\frac{1}{5}$ _____

3. 0.125 and 8 _____

4. 30 and 0.3 _____

Part II. Write the **reciprocal** of each then verify that two values are reciprocals.

1. $\frac{4}{5}$ _____

_____ · _____ = _____

2. $-\frac{8}{3}$ _____

_____ · _____ = _____

3. $\frac{6}{21}$ _____

_____ · _____ = _____

4. $4\frac{1}{4}$ _____

_____ · _____ = _____

5. $-5\frac{7}{10}$ _____

_____ · _____ = _____

6. $7\frac{2}{3}$ _____

_____ · _____ = _____

Part III. Identify the **coefficient** of each variable then identify the **reciprocal of the coefficient**.

1. $\frac{-x}{5}$ coefficient: _____

reciprocal of coefficient: _____

2. $\frac{y}{4}$ coefficient: _____

reciprocal of coefficient: _____

3. $-\frac{r}{7}$ coefficient: _____

reciprocal of coefficient: _____

4. $\frac{x}{20}$ coefficient: _____

reciprocal of coefficient: _____

5. $\frac{z}{-16}$ coefficient: _____

reciprocal of coefficient: _____

6. $\frac{x}{6}$ coefficient: _____

reciprocal of coefficient: _____

Part IV. SOLVE EACH EQUATION BY MULTIPLYING BOTH SIDES BY THE RECIPROCAL OF THE COEFFICIENT. Show your work. Box your answers. Show your check step.

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

2. $\frac{2}{3}z = -12$

3. $\frac{-3}{5}t = 8$

4. $\frac{3}{5}a = \frac{2}{15}$

5. $\frac{3}{7} = \frac{5}{14}x$

6. $\frac{7}{4} = \frac{3}{2}y$

Part V. RE-WRITE EACH EQUATION USING COEFFICIENTS. Solve each equation by multiplying both sides by the reciprocal of the coefficient. Show your work. Box your answers. Show your check step.

1. $\frac{x}{7} = \frac{4}{14}$

2. $\frac{-x}{5} = \frac{3}{4}$

3. $\frac{x}{3} = \frac{5}{6}$

4. $\frac{x}{-15} = \frac{2}{5}$

5. $\frac{y}{-5} = \frac{2}{15}$

6. $\frac{x}{20} = \frac{-5}{4}$

Part VI. Completion

1. Two numbers are _____ if their product is one.

2. The number _____ is its own reciprocal.

3. Any number that can be written as a fraction is called a _____ number.

4. All rational numbers except ____ have a reciprocal.

5. To find the reciprocal of a simple fraction, _____ the numerator and the denominator.

6. The product of two reciprocals is _____.