

## Chapter 11.1-11.3 Quiz Review

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

### Section 11.1: Proportions

Solve the proportions using cross multiplication.

$$1.) \frac{5x}{3} = \frac{5}{6}$$

$$2.) \frac{x+7}{10} = \frac{4}{3}$$

$$3.) \frac{1}{x+1} = \frac{x}{2}$$

$$4.) \frac{x+6}{3} = \frac{x-5}{2}$$

$$5.) \frac{6x+4}{5} = \frac{2}{x}$$

$$6.) \frac{9-x}{x+4} = \frac{5}{2x}$$

**Section 11.2: Direct and Inverse Variation**

The variables  $x$  and  $y$  vary directly. Use the given values to write an equation that relates  $x$  and  $y$ .

7.)  $x = 8, y = 24$

8.)  $x = 18, y = 6$

The variables  $x$  and  $y$  vary inversely. Use the given values to write an equation that relates  $x$  and  $y$ .

9.)  $x = 11, y = 2$

10.)  $x = \frac{1}{2}, y = 8$

**Section 11.3: Simplifying Rational Expressions**

Simplify the expression if possible.

11.)  $\frac{10x^5}{16x^3}$

12.)  $\frac{18x^2}{12x}$

13.)  $\frac{7x}{12x + x^2}$

14.)  $\frac{42x - 6x^3}{36x}$

$$15.) \frac{x^2 + x - 20}{x^2 + 2x - 15}$$

$$16.) \frac{x^2 - 16}{x - 4}$$

$$17.) \frac{x^2 - 4x + 3}{x + 1}$$

$$18.) \frac{x^2 + 9x + 14}{x^2 - 49}$$