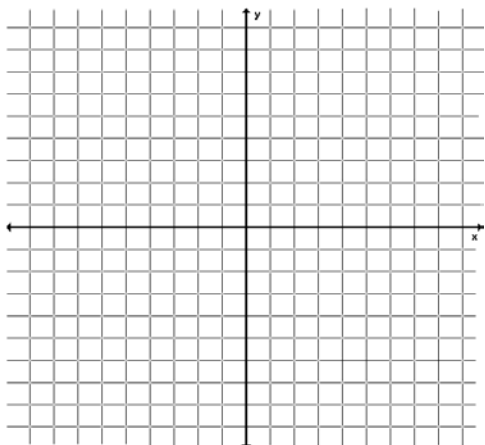


## Lesson 8.2 & 8.4 Review Worksheet

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

Graph the function. Identify the graph's asymptotes and the function's domain and range.

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

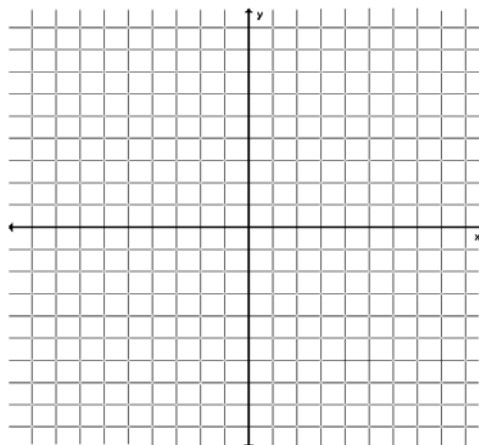


asymptotes: \_\_\_\_\_

domain: \_\_\_\_\_

range: \_\_\_\_\_

2.)  $f(x) = \frac{5}{x-1} + 2$

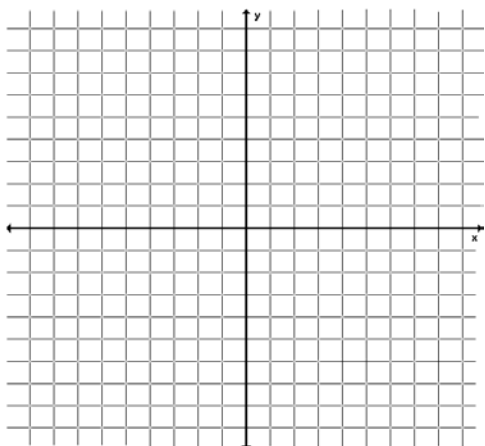


asymptotes: \_\_\_\_\_

domain: \_\_\_\_\_

range: \_\_\_\_\_

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

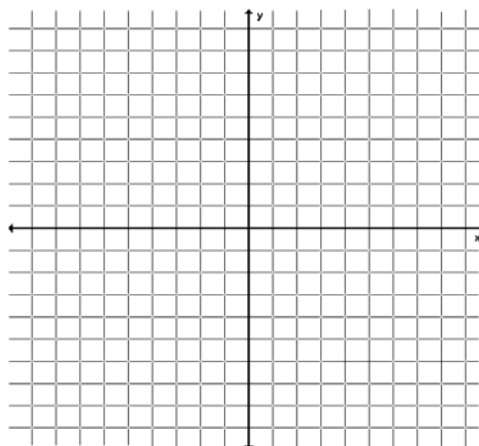


asymptotes: \_\_\_\_\_

domain: \_\_\_\_\_

range: \_\_\_\_\_

4.)  $f(x) = \frac{4}{3x-2} - 1$



asymptotes: \_\_\_\_\_

domain: \_\_\_\_\_

range: \_\_\_\_\_

**Simplify the rational expression, if possible.**

$$5.) \frac{x^2 + x - 6}{x^2 + 9x + 18}$$

$$6.) \frac{x^3 - 100x}{x^4 + 20x^3 + 100x^2}$$

$$7.) \frac{x^2 - 5x - 84}{2x^2 - 98}$$

**Multiply or divide the expressions. Simplify the result.**

$$8.) \frac{6x^2y}{xy^2} \cdot \frac{2y}{9x^3}$$

$$9.) \frac{2x^2 - x - 6}{2x^2 + 5x + 3} \cdot \frac{x^2 + x}{x^2 - 4}$$

$$10.) \frac{3x^2 + 15x}{x^2 - 12x + 36} \cdot (x^2 - x - 30)$$

$$11.) \frac{12x^8y}{5y^5} \div \frac{3y^2}{x^2}$$

$$12.) \frac{6x^2 + x - 1}{4x^3 + 4x^2} \div \frac{6x^2 - 2x}{x^2 - 4x - 5}$$

$$13.) \frac{x^2 - 4x - 32}{2x^2 - 13x - 24} \div \frac{x}{4x^2 - 9}$$