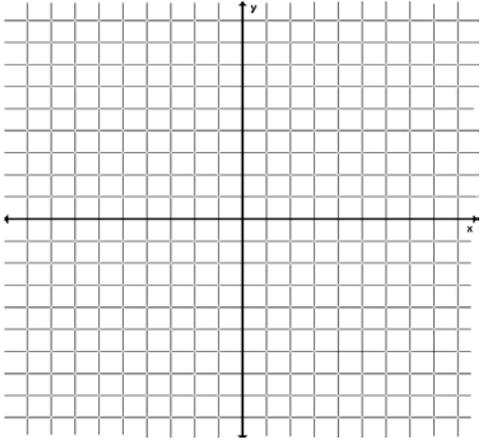


Chapter 8 Review Worksheet

Name: _____

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

1.) $y = \frac{4}{x-3}$

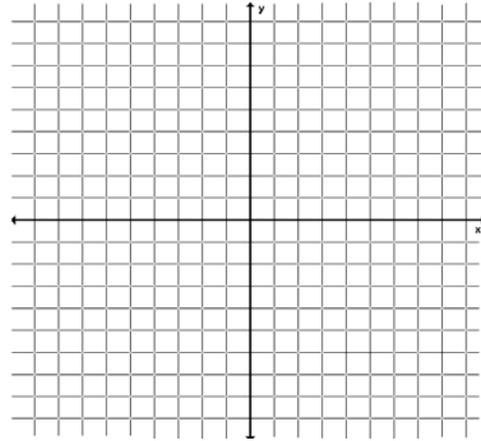


asymptotes: _____

domain: _____

range: _____

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

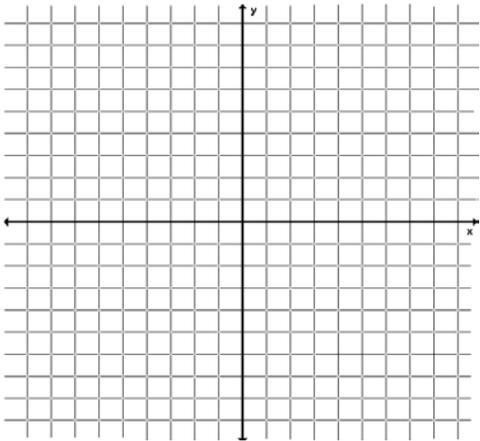


asymptotes: _____

domain: _____

range: _____

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

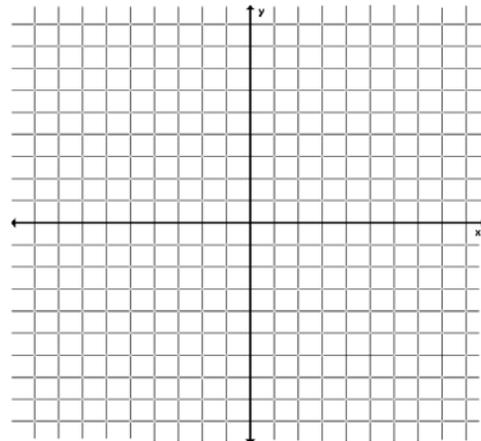


asymptotes: _____

domain: _____

range: _____

4.) $f(x) = \frac{6-x}{2x+1}$



asymptotes: _____

domain: _____

range: _____

Simplify the rational expression, if possible.

$$5.) \frac{x^2 + 2x - 24}{x^2 + 7x + 6}$$

$$6.) \frac{3x^3 + 6x^2 + 12x}{x^3 - 8}$$

$$7.) \frac{x^2 + 4x - 5}{x^2 - 25}$$

Multiply or divide the expressions. Simplify the result.

$$8.) \frac{80x^4y}{y^3} \cdot \frac{xy}{5x^2}$$

$$9.) \frac{x - 3}{2x - 8} \cdot \frac{6x^2 - 96}{x^2 - 9}$$

$$10.) \frac{x^2 + 12x + 36}{x^2 - 8x + 12} \cdot (x^2 - 36)$$

$$11.) \frac{3x^2y}{4x^3y^5} \div \frac{6y^2}{2xy^3}$$

$$12.) \frac{16x^2 - 8x + 1}{x^3 - 7x^2 + 12x} \div \frac{20x^2 - 5x}{15x^3}$$

$$13.) \frac{6x^2 + x - 15}{4x^2} \div (3x^2 + 5x)$$

Perform the indicated operation(s) and simplify.

$$14.) \frac{3x}{x+5} - \frac{4x+1}{x+5}$$

$$15.) \frac{8}{3x^2} - \frac{5}{4x}$$

$$16.) \frac{4}{x-3} + \frac{2}{x+6}$$

$$17.) \frac{3x}{x^2+x-12} - \frac{6}{x+4}$$

$$18.) \frac{4}{x+5} + \frac{2x}{x^2-25}$$

$$19.) \frac{3}{x} + \frac{2}{x-2} - \frac{2}{x^2}$$

Solve the equation. Check for extraneous solutions.

$$20.) \frac{2x}{9} = \frac{2}{x}$$

$$21.) \frac{6}{x+2} = \frac{x-3}{2x+4}$$

$$22.) \frac{x+12}{3} = \frac{2x+3}{x+2}$$

$$23.) \frac{x-4}{x-2} - \frac{2x-1}{x-2} = 2$$

$$24.) \frac{x-1}{x} + \frac{2x-1}{x+3} = \frac{x+6}{x+3}$$

$$25.) \frac{5}{x} + \frac{x+1}{x+2} = \frac{2x+9}{x+2}$$

$$26.) \frac{1}{x+6} + \frac{x+1}{x} = \frac{13}{x+6}$$