Pre-Calculus Name_____

Homework - 2.6

Find the domain of the rational function.

1) $h(x) = \frac{x + 9}{x^2 + 4x}$ 1) _____

2) $h(x) = \frac{x - 7}{x^2 + 49}$ 2) _____

Find the vertical asymptotes, if any, of the graph of the rational function.

3) $h(x) = \frac{x + 3}{x^2 - 9}$ 3) _____

4) $f(x) = \frac{x}{x^2 + 9}$ 4) _____

Find the horizontal asymptote, if any, of the graph of the rational function.

5) $f(x) = \frac{-10x}{5x^3 + x^2 + 1}$ 5) _____

6) $g(x) = \frac{-7x + 3x^2 - 5}{2x^2 - 4x + 9}$ 6) _____

Find the slant asymptote, if any, of the graph of the rational function.

7) $f(x) = \frac{8x^2}{5x^2 + 5}$ 7) _____

8) $f(x) = \frac{x^2 + 8x - 2}{x - 8}$ 8) _____

Graph the rational function.

9) $f(x) = \frac{4x}{x - 2}$ 9) _____

10) $f(x) = \frac{2x}{x^2 - 4}$ 10) _____

11) $f(x) = \frac{x + 2}{x^2 + x - 6}$ 11) _____

12) $f(x) = \frac{x^2 + x - 12}{x^2 - 4}$ 12) _____