Calculus

name: _____

Exercises: Evaluate each limit by direct substitution and/or algebraic simplification. Then graph each problem with any holes or asymptotes.

1) $\lim_{x \to 3} x^2 =$

2) $\lim_{x \to -5} \left(\frac{x^2 + 25}{x + 5} \right) =$

3) $\lim_{x \to -4} \left(\frac{6x}{x - 2} \right) =$

4) $\lim_{x \to 0} \left(\frac{1}{x} \right) =$

5) $\lim_{x \to 5} \left(\frac{x^2 - 25}{x - 5} \right) =$

6) $\lim_{x \to 6} \left(\frac{x^2 - 25}{x - 5} \right) =$

7) $\lim_{x \to 2} \left(\frac{x^3 - 8}{x - 2} \right) =$

8) $\lim_{x \to -3} \left(\frac{x^3 + 27}{x + 3} \right) =$

9) $\lim_{x \to -1} \left(\frac{2x^2 + 3x + 1}{x + 1} \right) =$

10) $\lim_{x \to -1} \left(\frac{x + 1}{2x^2 + 3x + 1} \right) =$

11) $\lim_{x \to -1/2} \left(\frac{x + 1}{2x^2 + 3x + 1} \right) =$

12) $\lim_{x \to 0} \left(\frac{x^2 + 25}{x + 5} \right) =$