Name _____ Period _____ Date _____

Homework #9A
- p.66 (9, 13, 20, 22-23)

Find each limit.

9. $\lim\limits_{x \to 1} (x^3 + 3x^2 - 2x - 17)$

13. $\lim\limits_{x \to -2} (x - 6)^{2/3}$

Find each limit. Include (1) a table of values used to determine the behavior of the function around the given point, (2) a graph with sufficient detail which illustrates the behavior of the function around the given point, and (3) simplify the function algebraically to determine the behavior around the given point.

20. $\lim\limits_{t \to 2} \dfrac{t^2 - 3t + 2}{t^2 - 4}$

22. $\lim\limits_{x \to 0} \dfrac{\dfrac{1}{2 + x} - \dfrac{1}{2}}{x}$

23. $\lim\limits_{x \to 0} \dfrac{(2 + x)^3 - 8}{x}$

AP Calculus AB

Name _____ Period _____ Date _____

Simplify the following expressions:

a) $\dfrac{x^2 + 4xy + 3y^2}{x^2 - y^2} \div \dfrac{x + 3y}{x + y}$

b) $\dfrac{x^3 - 6x^2 + 8x}{x^2 - 8x + 16} \div \dfrac{2x - 4}{10x^2 - 40x}$

c) $\dfrac{a + \dfrac{a}{b}}{1 - \dfrac{1}{b^2}}$

d) $\dfrac{1}{\dfrac{1}{a} + \dfrac{1}{b} + \dfrac{1}{c}}$

AP Calculus AB