

AP Calc Warm Up – 9/27/10

Name: _____

Period: _____

1) Find the following

a. $\lim_{x \rightarrow 0} \frac{1}{x} =$

b. $\lim_{x \rightarrow 3} \frac{x^2 - 2x - 3}{x - 3} =$

c. $\lim_{x \rightarrow -2} \frac{x^2 + 5x + 7}{x + 2} =$

AP Calc

Continuity and Limits

Name:_____Date:_____Period:_____

Students will be able to determine if a function is continuous over an interval using the limit definition of continuity.

Continuity and Limits Connected!

Example

$$f(x) = \frac{1}{x}$$

Practice – Determine if the function is continuous on the given interval. If the function is not continuous state where and why it is not continuous.

1) $f(x) = 2x + 5$ on $[-1, 1]$

2) $f(x) = \frac{1}{x}$ on $[-2, 2]$

3) $f(x) = \frac{2x}{x-5}$ on $[-1, 1]$

4) $f(x) = \frac{2x}{x-5}$ on $[3, 6]$

5) $f(x) = \frac{\sin x}{x}$ on $[-1, 1]$

6) $f(x) = \frac{x-4}{x^2+3x-15}$ on $[-10, 10]$

7) $\frac{x^2-4x+4}{x-2}$ on $[1, 4]$

AP Calc – Exit Slip – 9/27/10

Name: _____

Period: _____

- 1) Determine if the function is continuous on the given interval. If the function is not continuous state where and why it is not continuous.

a. $f(x) = \frac{1}{x}$ on $[-2, 2]$

b. $f(x) = \frac{x+5}{x^2+5x+6}$ on $[2, 4]$

c. $f(x) = \frac{x+5}{x^2+5x+6}$ on $[-4, 4]$