

# AP Calc Warm Up – 9/16/10

Name: \_\_\_\_\_

Period: \_\_\_\_\_

1) Find the following limits or state if they do not exist.

a.  $\lim_{x \rightarrow -4} \frac{x}{x+8} =$

b.  $\lim_{x \rightarrow 0} \frac{x^2}{x} =$

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

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

e.  $\lim_{x \rightarrow 0} \frac{x}{x} =$

# AP Calc

## Finding Limits with a Graphing Calculator

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

Students will be able to find the limit of a function using a graphing calculator

Consider the following limits:

$$\lim_{x \rightarrow 0} \frac{x}{x} =$$

$$\lim_{x \rightarrow 0} \frac{\sin x}{x} =$$

$$\lim_{x \rightarrow \frac{\pi}{2}} \frac{\cos x}{x - \frac{\pi}{2}} =$$

$$\lim_{x \rightarrow 1} \frac{2^x - 2}{x - 1} =$$

$$\lim_{x \rightarrow 2} \frac{|x - 2|}{x - 2} =$$



Examples

$$\lim_{x \rightarrow 4} x^2 =$$

$$\lim_{x \rightarrow -2} \frac{1}{x+2} =$$

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

$$\lim_{x \rightarrow 4} \frac{x-4}{x^2 - 2x - 8} =$$

$$\lim_{x \rightarrow 0} \frac{\sin x}{x} =$$

## Practice

1) Find the following limits:

a.  $\lim_{x \rightarrow -5} 3x + 15 =$

b.  $\lim_{x \rightarrow 7} \frac{1}{x - 7} =$

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

d.  $\lim_{x \rightarrow -5} \frac{x^2 + 3x + 7}{x - 5} =$

e.  $\lim_{x \rightarrow -2} \frac{x^2 - 5x - 24}{x - 8} =$

## AP Problem

1) If  $a \neq 0$ , then  $\lim_{x \rightarrow -a} \frac{x^2 - a^2}{x^4 - a^4}$  is:

a)  $\frac{1}{6a^2}$

b) 0

c)  $\frac{1}{a^2}$

d)  $\frac{1}{2a^2}$

e) Does not exist

# AP Calc – Exit Slip – 9/15/10

Name: \_\_\_\_\_

Period: \_\_\_\_\_

1) Find the following limits:

a.  $\lim_{x \rightarrow 6} 2x + 5 =$

b.  $\lim_{x \rightarrow 2} \frac{1}{x} =$

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

d.  $\lim_{x \rightarrow -5} \frac{x^2 + 3x + 2}{x + 5} =$

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