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

**September 7th, 2012**

**AP Calculus 1, Mrs. Sulkes**

**Properties of Limits**

Part 1: Given f(x) = x2 - 1 and g(x) = 2x.

1. Find each of the following limits.





1. Evaluate . Are there any special conditions?
2. Evaluate: . Are there any special conditions?

Are your results the same for b. and c.?

1. Evaluate.
2. Evaluate .

Are your results the same for d. and e.?

1. Evaluate .
2. Evaluate .

Are your results the same for f. and g.?

1. Evaluate .
2. Evaluate .

Are your results the same for h. and i.?

Part 2: Given any two functions f(x) and g(x), where  and , complete each statement to make it true. Use Part I to help you with E – H.

A. 

B. 

C. 

D. 

E. 

F. 

G. 

H. 

Part 3: Use the following information to evaluate the limits. and .

1.  2. 

3.  4. 

5.  6. 

7. 

True or False?

1. If f(x) > g(x) for all x ≠ a, then .

2. If  then 

3. If f(x) = g(x) for all x ≠ 0, and then 

4. If f(c) = L, then 

5. 