**Continuity and Differentiability Test**

Test the differentiability of the following functions:

1.  at x = 0
2.  at x = 0
3. at
4. 

Is *f*(*x*) continuous at 9=*x*? Determine whether *f*(*x*) is

differentiable at x = 9.

1. 

Is *f*(*x*) continuous at x = 1?Determine whether *f*(*x*) is

differentiable at x = 1.

1.  at x = 0
2. Show that  is not continuous and differentiable at x = 1.