SHEET #406: NAME: _____ PER: _____

PRACTICE OF DERIVATIVES & CRITICAL POINTS (D.C.1)

1. FIND f' AT $X=2$ FOR $f(x) = 9x^2 - 4x$

2. FIND EQUATION OF TANGENT LINE AT $X=1$ FOR $f(x) = 4x^3 - 15x$. GRAPH BOTH AS CHECK.

3. FIND CRITICAL POINTS (MAX/MIN/PT. OF INFLECTION) FOR $f(x) = 2x^3 + 4x^2$. USE ALGEBRA. GRAPH TO CHECK.

4. GRAPH $f(x) = 0.1(x-1)(x-3)(x+2)$. [ZOOM] 4:ZDECIMAL

a) FIND ZEROS OF $f(x)$

b) GRAPH THE DERIVATIVE OF $f(x)$. USE THIS GRAPH TO FIND MAX/MIN.

c) USE GRAPH OF $f''(x)$ TO FIND POINT OF INFLECTION OF $f(x)$.

d) IF YOU HAVE TIME, REDO PROBLEM WITH ALGEBRA!

1. 32

2. -3x-8

3. min (0,0); max (-4/3, 64/27); infl (-2/3, 32/37)

4. a) 1, 3, -2; b) max (-0.786, 0.821); min (2.120, -0.406) c) (0.667, 0.207)