

## Math 1743 - Math Center Worksheet Section 3.1

1. Find the derivatives of the following functions:  
You do not need to simplify your answers.

a.  $y = 2x^{0.8}$

b.  $f(x) = 3\sqrt{x^5}$

c.  $g(x) = \frac{4}{x^6}$

2. Find the rate of change formulas for the following models:

a.  $S(t) = 499.371t + 5036.225$  students enrolled at a local college,  $t$  years after 1965

b.  $H(s) = -16s^2 + 32s + 128$  height in feet  $s$  seconds after it was dropped

c.  $N(h) = -0.230h^3 + 2.703h^2 - 0.591h + 7.071$  components produced after  $h$  hours working.