**Classwork: Equations of the tangent and normal lines to a point on a curve**



1. Given that *f*(*x*) = *x*² + 4*x*. Graph the function.

a) Find *f* (0)

b) Find 

c) What is the slope of a line tangent to *f* when *x* = 0

d) What is the equation of the line tangent to *f* when *x* = 0?

e) For what value of *x* is ? Mark that point on the graph.

2. Given the following function: *f*(*x*) = - 16*x*² + 64.

a) Find *f* (0), *f* (1), and *f* (2)

b) Find 

c) Find 

d) Sketch the curve of the function over the domain [0, 2]