

Math 124 Worksheet #11
November 6, 2007

1. $f(x) = 1 - 3xe^{\frac{1}{4}x}$
 - (a) Find the linearization of f at $x = 0$.
 - (b) Use the linearization to approximate the x -value for which $f(x) = 2$.
(Trying to algebraically solve for x such that $f(x) = 2$ is difficult, so this is a good time for approximation.)

2. Let $D(t) =$ the number of minutes of daylight on day t of the year in 2007. November 6th (today) is the 310th day of the year.
 - (a) Interpret the following statements: $D(310) = 583.73$ and $D'(310) = -2.93$.
 - (b) Estimate the amount of daylight on November 5th and November 10th.