

Math 124 Quiz #8
November 18, 2008

Name: _____

Show all work.

1. (6 pts.) A streetlight is mounted at the top of a 22 foot pole. A 4 foot tall person walks **away** from the pole at a rate of 3 feet/second along a straight path. How fast is the **length of the shadow growing** when the person is 8 feet away from the pole?

2. Consider the function $f(x) = 6 + 4 \ln(2x - 5)$.

(a) (2 pts.) Find the linearization of $f(x)$ at $a = 3$.

(b) (2 pts.) Use linear approximation to estimate $f(3.1)$. Simplify your answer as much as possible.