Quiz 20A

1. (a) Use your calculator to approximate the derivative of $f(x) = x^{1/5}$ at $x = 32$.

   (b) Use a linear approximation to f to approximate the fifth root of 32.01

   (c) If d is a number between -.1 and .1, what is a good approximation to

$$(32 + d)^{1/5}$$

2. If f is a function whose derivative is always positive, what is the maximum number of times that f can take the value 0. Explain why as clearly as possible.