

MATH 108 – QUIZ 6 – 8 OCTOBER 1998

Answer all of the following questions in the space provided. Show all work as partial credit may be given. Answers without justification, even if they are correct, will earn no credit.

1. (3 pts.) Find the derivative of the function $f(x) = x^2 - 3x$ using the definition of the derivative. (Hint: The definition of the derivative is $f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$.)

2. (3 pts.) Find the equation of the tangent line to the graph of the function $f(x) = x^3 + 1$ at $x = 2$.

3. (2 pts. each) Find the derivative of each the following functions.

(a) $f(x) = x^{1/2} + x^{-1/2}$

(b) $f(x) = (x^3 + 1)(x - 3)$ (Hint: You can use the product rule if you want.)