

MATH 110-001 QUIZ 3

October 20, 2017

Time: 15 minutes

Show all your work. No calculators, no books/notes are allowed.

Name (please print): _____

Student number: _____

1. Find the derivative, $f'(x)$, of the following function using the LIMIT DEFINITION. No marks will be given for any other method.

$$f(x) = -7x^2 - 6$$

2. Find the derivative, $g'(t)$, of the following function using whatever method you like. Simply your final answer

$$g(t) = \sqrt[3]{t^2} - \frac{5}{\sqrt{t}} + 7t^3 + e^6$$

3. Find the equation of line tangent to the graph of

$$h(x) = -x^2 + 9$$

at $x = 0$

Bonus: For which value of x does the graph of $f(x) = x^3 - 6x^2 + 12x + 7$ have a horizontal tangent line?