

MATH 110-003, QUIZ 3

October 20, 2016

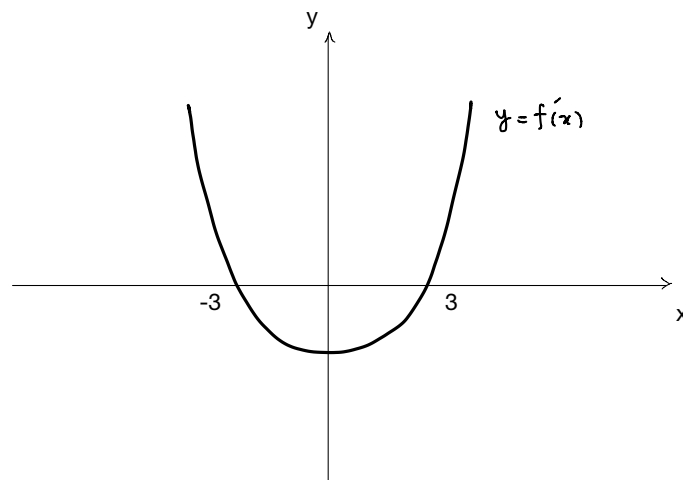
Time: 15 minutes

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

Name (please print): _____

Student number: _____

1. The graph of the derivative f' is shown below. Answer the following questions about the function f .



- a) For what values of x is f increasing?
- b) For what values of x is f decreasing?
- c) For what values of x does f have a horizontal tangent line?

(Hint: The answer to each part can be an interval.)

2. Let f be the function $f(x) = x^3 - 3x$

(a) Find all points on the graph at which the tangent line to f is parallel to the line $y = 9x + 4$. (Find both x and y coordinates of the points.)

(b) Write the equation of the tangent line to f at the point with positive x -coordinate from part (a).