

King Fahd University of Petroleum & Minerals
Department of Mathematics and Statistics
Math101/Calculus I
Quiz 5
One Problem ¹

Problem 1 (15 points)

Consider the following function:

$$f(x) = x^3 - 3x^2 + 1.$$

- a) Compute the first derivative $f'(x)$.
- b) Find the critical numbers.
- c) Draw the sign and variation tables of f' and f .
- d) Find all local or absolute maxima or minima of f .
- e) Study the concavity of f .

¹The quiz lasts 20 minutes.