

NAME: \_\_\_\_\_

(1) Suppose that you want to approximate  $\sqrt[3]{27.1}$ .

(a) Find the linearization of  $y = \sqrt[3]{x}$  at  $x = 27$ .

(b) Use your answer to (a) to approximate  $\sqrt[3]{27.1}$ .

(c) Find all  $x$  values around  $x = 27$  for which the linearization you found in (a) is accurate to 0.05. (Use your calculator to do this.)

(2) Find all the values  $c$  that satisfy the conclusion of the Mean Value Theorem when it is applied to the function  $y = x^2$  on  $[-2,5]$ .