

**King Fahd University of Petroleum & Minerals**  
Department of Mathematical Sciences  
MATH - 101 Semester 083 **Quiz - 3**

Name: \_\_\_\_\_ ID# \_\_\_\_\_ Section# \_\_\_\_\_

**Problem .** Let  $f(x)$  be a continuous function with  $f(4) = 3$ , and  $f'(4) = 5$ .

(A) Find the equation of the tangent line to the graph of  $h(x) = [f(x)]^2 + 7$  at  $x = 4$ .

(B) Is  $g(x) = \frac{x^2 - 1}{f(x)}$  increasing or decreasing at  $x = 4$ ?

(C) Find  $k'(2)$  where  $k(x) = f(\sqrt{x})$

(D) Find  $m'(4)$ , where  $m(x) = 3^{f(x)-3}$