

**King Fahd University of Petroleum and Minerals**  
**Department of Mathematics and Statistics**  
**MATH 101 – Quiz 5**

**Term 081**

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

**Exercise**

$$f(x) = x^{\frac{1}{3}}(x-6)^{\frac{2}{3}} ; f'(x) = \frac{x-2}{x^{\frac{2}{3}}(x-6)^{\frac{1}{3}}} ; f''(x) = \frac{-8}{x^{\frac{5}{3}}(x-6)^{\frac{4}{3}}}$$

Give a complete study of  $f(x)$  and draw its graph.

**Variation Table**

$x$	
$f'$	
$f$	

**Concavity Table**

$x$	
$f''$	
$f$	

**Graph**

