

King Fahd University of Petroleum and Minerals  
Department of Mathematical Sciences  
**Math 101.05 Quiz I Summer 2006 (053)**

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

Serial # \_\_\_\_\_ Section #: \_\_\_\_\_

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1. Find  $f'(x)$  if  $f(x) = (2x^7 - x^2) \left( \frac{x-1}{x+1} \right)$ .

2. Find  $k$  if  $y = 2x$  is tangent to the curve  $y = x^2 + k$ .

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1. Find  $\lim_{x \rightarrow -\infty} x \left(1 - \cos \frac{1}{x}\right) \left[x - \cos \frac{1}{x}\right]$ .

2. If  $y = \frac{\sin x}{\sec(3x + 1)}$ , find  $\frac{dy}{dx}$ .