

King Fahd University of Petroleum and Minerals  
Department of Mathematics and Statistics  
Math 101 (163) Sec 08 - Quiz 1

Name:

ID:

Serial No.:

1. Estimate the area under the graph of  $f(x) = 8 - x^2$ , from  $x = -2$  to  $x = 2$  using four rectangles and left endpoints.

2. Expression the integral  $\int_2^4 (4 - x^2) dx$ , as a limit of a Riemann Sum, then evaluate the limit. [No other method will be accepted]

3. By interpreting it as an area, find the value of the integral

$$\int_{-5}^0 (2x + 4\sqrt{25 - x^2})dx$$

4. Find the slope of the tangent line to the graph of the function

$$f(x) = \int_{\cos(2x)}^{\tan x} \ln(1 + 2t)dt \text{ at } x = \frac{\pi}{4}.$$