

**King Fahd University of Petroleum and Minerals**  
**Department of Mathematics & Statistics**  
**Math101.14**  
**Semester 111**  
**Quiz (1)**

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**Name:**

**ID #:**

**Serial #:**

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1. Find the approximate area under the graph of  $y = x^2$  from  $x = 1$  to  $x = 9$  using four rectangles and midpoint approximation.

2. Find  $\frac{k}{h}$  if

$$h \leq \int_0^{\frac{\pi}{2}} e^{-\sin x} dx \leq k$$

3. Find an equation of the tangent line to the graph of  $f(x) = \int_0^x e^t dt$  at the point where  $x = 1$

4. Find the value of

$$\int_0^1 \frac{3x^3 + x^2 - 18x - 6}{3x + 1} dx$$

5. (Bonus) Find the sum of odd integers in the set  $\{1, 2, 3, \dots, 100\}$ .

Good luck  
Khaled Al-Anezy