

Math 102    Quiz 1

(A)

Name:.....Serial #:.....Sec #:.....

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**Q.1:** Write an expression as a **limit** for the area under the graph of  $f(x) = x^2 + \sin(x)$ ,  $2 \leq x \leq 5$ .  
Do not evaluate the limit.

**Q.2:** Use Riemann sum with  $n = 4$  and take sample points as midpoints to approximate the integral  
 $\int_0^4 (4 - x^2) dx$ .

**Q.3:** Use Fundamental Theorem of Calculus to find the derivative of  $y = \int_{\ln x}^{x^3} (t^2 + \sin(t)) dt$ .