

1. **Find** an estimate of the area under the graph of  $y = \frac{1}{x}$  from  $x = 1$  to  $x = 2$  using four approximating rectangles and right endpoints.

2. **Express** the given limit as a definite integral and find the value of the integral.

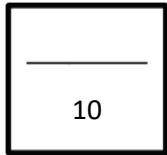
$$\lim_{n \rightarrow \infty} \left[ \sum_{i=1}^n \frac{i^3}{n^4} \right]$$

3. If  $f(x) = \begin{cases} |x-1| & \text{if } 0 \leq x \leq 2 \\ \sqrt{9-(x-5)^2} & \text{if } 2 < x \leq 8 \end{cases}$ , find  $\int_0^8 f(x) dx$ ?

4. Find  $g(4) + g'(4)$  if  $g(x) = \int_{\sqrt{x}}^2 \cos(\pi t^2) dt$ . ( $g'(4) = \frac{dg}{dx} \Big|_{x=4}$ )

## **Math 102 - Quiz#1B**

Sec 5.1-5.3



Name:

ID No.:

Serial No.:

1. **Find** an estimate of the area under the graph of  $y = 1 + x^2$  from  $x = -1$  to  $x = 2$  using three approximating rectangles and right endpoints.

2. **Express** the given limit as a definite integral and **find** the value of the integral.

$$\lim_{n \rightarrow \infty} \left[ \sum_{i=1}^n \frac{i^4}{n^5} \right]$$

3. If  $f(x) = \begin{cases} |x-1| & \text{if } 0 \leq x \leq 2 \\ \sqrt{9-(x-5)^2} & \text{if } 2 < x \leq 8 \end{cases}$ , find  $\int_0^8 f(x) dx$ ?

4. Find  $g(4) + g'(4)$  if  $g(x) = \int_{\sqrt{x}}^2 \cos(\pi t^2) dt$ . ( $g'(4) = \frac{dg}{dx} \Big|_{x=4}$ )