KFUPM | Term 171 | Date: 1/2/2018

Mathematics & Statistics | MATH 102 | Duration: 15 minutes

Quiz# 1

Name: ID #: Section:

Q1. Using three approximating rectangles and midpoints, the area under the graph of $f(x) = \frac{x}{x-1}$ from x=2 to x=8 is approximately equal to

Q2. Express the following limit in terms of a definite integral

$$\lim_{n\to\infty} \sum_{i=1}^{n} \frac{2}{n} \left[\frac{1 + \frac{2i}{n}}{(1 + \frac{2i}{n})^2 + 4} \right]$$

Q3.

If R_n is the Riemann sum for

$$f(x) = 3 + \frac{2}{9}x^2, \quad 0 \leq x \leq 3,$$

with n subintervals and taking sample points to be the right endpoints, then $R_n =$

(a) $9 + \left(1 + \frac{1}{n}\right)\left(2 + \frac{1}{n}\right)$