QUIZ 5.1 – 5.3

**Multiple Choices [4]**

1. Find the MRAM approximation for the area of the shaded region (under the curve between 0 and 4), using 8 subintervals of equal width.


A) 4.425 B) 4.480 C) 6.719 D) 8.959
2. The expression is a Riemann sum approximation for

A) B) C) D)
3. The table shows selected values for a continuous function *f* over the interval .

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 2 | 3 | 5 | 8 |
|  | 8 | 22 | 72 | 142 |

Using the subintervals , and , what is the trapezoidal approximation of ?

A) 268 B) 338 C) 430 D) 592

1. The graph of a piecewise linear function *f* is shown below.

If *g* is the function defined by , determine .

A) -6 B) -4 C) 4 D) 6

**Free Response Questions:**

1. The graph of *f* below consists of line segments and a semi-circle. [4]
Evaluate each definite integral.


a)

b)

c)

d)
2. a) Write the following integral as the limit of a Riemann sum: [1.5]

b) Write the following limit as an integral: [1.5]
3. Consider the following graph: [3]

Using 4 rectangles, determine an approximation of the shaded region (under the curve between 1 and 5) with the given method:

a) LRAM

b) RRAM
4. Use your calculator to determine to the nearest thousandth. [1]
5. Given and , evaluate: [4]

a)

b)

c)

d)
6. Given and , evaluate: [3]

a)

b)

c)
7. Determine the exact value of the average value of the following function on the interval :
 [2]