Prepa Tec
Calculus II

Campus Cumbres
1st partial Quiz # 2A

88

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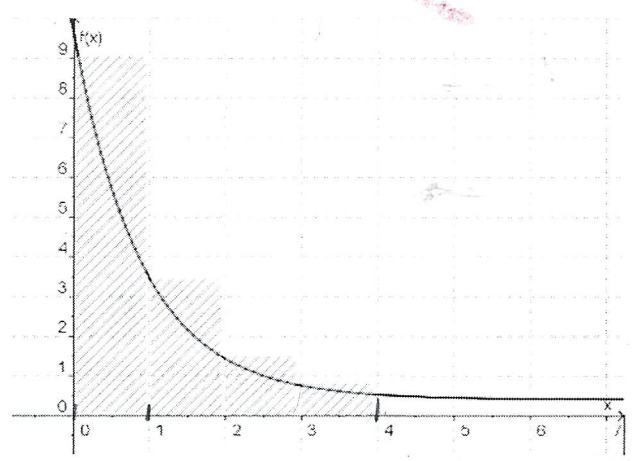
I . Multiple choice. Choose the letter of the right answer (10 points).

1. Choose the sentence that best describes the approximate area below the graph of $f(x)$:



$\Delta x = 1$

a) Approximation of the area on the interval $[0,4]$ using 4 partitions with ~~left~~-hand calculations.

b) Approximation of the area on the interval $[1,5]$ using 4 partitions with right-hand calculations.

c) Approximation of the area on the interval $[0,4]$ using 4 partitions with right-hand calculations.

d) Approximation of the area on the interval $[1,5]$ using 4 partitions with ~~left~~-hand calculations.

-10

II. Evaluate the integral using the following values. **SHOW THE STEPS OF YOUR PROCEDURE.** (5 points each)

$\int_2^4 x\,dx = 9$ $\int_2^4 x^3\,dx = 54$ $\int_2^4 dx = 7$

a. $\int_2^4 (5x^3+4x+6)\,dx =$ 348 ✓
270 36 42
$5x^3 dx$ $4x dx$ $6dx$
$5\times54+9\times4+6\times7$

b. $\int_2^4 23\,dx =$ 161 ✓
23×7

c. $\int_5^5 x^3\,dx =$ 0 ✓

d. $\int_4^2 x\,dx =$ −9 ✓

IV. Procedure. Solve the following problem *showing your entire procedure.*

1) Approximate the area of a plane regions using left hand, right hand and middle points approximations.

$f(x) = 9 - x^2$ on $[3,5]$ 4 rectangles **(20 points)**

$\Delta x = \frac{5-3}{4} = 0.5$

Area (Left hand) = −10,75 u² ✓
Area (Right hand) = −18,75 u² ✓

$(0.5)f(3) = 0$
$(0.5)f(3.5) = -1.625$
$(0.5)f(4) = -3.5$
$(0.5)f(4.5) = -5.625$

$(0.5)f(5) = -8$
$(0.5)f(4.5) = -5.625$
$(0.5)f(4) = -3.5$
$(0.5)f(3.5) = -1.625$