MAC 2311 Hybrid Calculus I (B)

**Section 5.1-5.3**

1. Estimate R3 (Right Riemann Sum), L3 (Left Riemann Sum), and M3 (Midpoint Riemann Sum) under the graph of from *x* = 0 and *x* = 3 using 3 rectangles. Draw the graphs with the rectangles clearly indicating each area.

ANS: R3=; L3= ; M3=

2. Evaluate by interpreting in terms of areas. ANS: π/4

3. True/False: If , then ; Explain.

4. Evaluate

5. Evaluate

6. Evaluate

7. Find

8. Find

ANS: Integral diverges because is discontinuous at *x*=0.

9. True/False If, then . Explain.

ANS: False Net area is not necessarily the same as total area.

10. Use symmetry to evaluate

11. Evaluate

12. Evaluate