Math 1314 – ONLINE
Alternate Assignment 11

Record your answers to these questions on the Alternate Assignment 11 answer sheet and upload your answers to the Alternate 11 slot on the "Assignments" tab at casa.uh.edu. This assignment is due on Saturday, April 6, 2013, at 11:59 p.m. All work must be submitted electronically. Late work will not be accepted.

1. Describe briefly the method for approximating the area under a curve.

2. What happens to the approximation as the number of rectangles increases?

3. Find Δx if you are working with 14 rectangles on the interval [-1, 4].

4. What should be the subintervals if you are working with 6 rectangles on the interval [1, 4]?

5. Find the midpoints of the intervals you listed in problem 4.

6. Suppose $f(x) = \frac{1}{2}x^2 + 3$. Use right endpoints and 4 subintervals to approximate the area under the curve on the interval [1, 5]. Do not use GGB for this problem.

9. Suppose $f(x) = \frac{1}{2}x^2 + 3$. Use left endpoints and 4 subintervals to approximate the area under the curve on the interval [1, 5]. Do not use GGB for this problem.

10. Suppose $f(x) = \frac{1}{2}x^2 + 3$. Use midpoints and 4 subintervals to approximate the area under the curve on the interval [1, 5]. Do not use GGB for this problem.

11. Approximate the area under $f(x) = 0.3x^2 + 6$ on the interval [-0.257, 2.118] using right endpoints and 45 rectangles.

12. The method of upper/lower sums has a distinct difference from the other sums in this lesson. What is it?

Use this function for problems 13 – 16. Suppose $f(x) = 1.9275x^2 + 5.1537x + 9.1184$.

13. Approximate the area under the curve on [-1.85, 2.17] using Riemann sums, left endpoints and 23 rectangles.

14. Approximate the area under the curve on [-1.76, 2.05] using Riemann sums, midpoints and 37 rectangles.

15. Approximate the area under the curve on [-2.115, 0.9875] using lower sums and 48 rectangles.

16. Approximate the area under the curve on [-3.509, 1.6775] using lower sums and 59 rectangles.

17. Find the antiderivative by hand: $\int \left(3x^2 + 7x - 9 \right) dx$

18. Find the definite integral by hand: $\int_1^3 \left(4x + 3 \right) dx$

19. Find the definite integral using GGB: $\int_{1.17}^{2.78} \left(\dfrac{2x}{x^2 + 5} \right) dx$

20. Find the definite integral using GGB: $\int_{2.06}^{4.19} \left(2.7xe^{-5x} \right) dx$