Exam 4 Review

1. Graph the following function. Answer (a)-(h) to assist you in drawing the graph 4.5 #14.?

 a) Domain

 b) Intercepts

 c) Symmetry

 d) Limits (Asymptotes)

 e) Intervals of Increasing and Decreasing

 f) Concavity

 g) Local Extrema (Local Maximums and Local Minimums)

 h) Sketch the Graph:

 1. draw the graph

 2. sketch asymptotes

 3. plot the intercepts

 4. local extrema

 5. sketch the curve according to (e) and (f)

2. Evaluate the following limit 4.4 #65:

3. A box with a square base and open top must have a volume of . Find the dimensions of the box that minimize the amount of material used. 4.7 #14

4. Find the most general form of the antiderivative of the function . 4.9 #6

5. Find ; . 4.9 #40

6. Estimate the area under the graph of from to using four approximating rectangles and right endpoints. Repeat for the left endpoints. 5.1 #4

7. Determine a region whose area is equal to the given limit. Do not evaluate. 5.1 #22

8. Use the form of the definition of the integral given in Theorem 4 to evaluate the following integral. 5.2 #22

9. Evaluate the integral by interpreting it in terms of areas 5.2 #40.

10. Use Part 1 of the Fundamental theorem of Calculus to find the derivative of the function

5.3 #16.

11. Evaluate the following integrals 5.3 #22,34:

 a) b)

12. Evaluate the indefinite integrals.

 a) 5.4 #12 b) 5.5 #22

13. Evaluate the definite integral 5.5 #60: