

Business Calculus Minitest 4 Review

Dr. Graham-Squire, Fall 2014

•The test will cover sections 5.6, and 6.1-6.4.

•To study, you should look over your notes, rework HW problems on WebAssign, quizzes, and problems from the notes, as well as work out the practice problems given for each section. The Review Questions at the end of Chapters 5 and 6 are also good practice (though not all questions in the review will match this mintiest). You can also look at the old tests on my website:

–Fall 2012, Minitest 4: #1, 3, 5

–Summer 2012, Test 3: #5 and 6

–Summer 2008, Test 3: # 3, 5, 7, 8 (and the Extra Credit)

–Summer 2007, Test 3: #2-4 and 6.

•Calculators are allowed on this test, but for certain questions you may not be allowed to use a calculator. It is highly recommended that you bring a calculator because you cannot use cell phones or computers during the test.

•Some Practice Problems to work on:

1. The element Grahamsquireium has a half-life of 250 years. Given a 100 gram sample, how much of it will be left after 300 years?

2. Find the indefinite integral $\int x \left(\sqrt{x} + \frac{3}{x^2} - \frac{2e^x}{x} \right) dx$.

3. Find the indefinite integrals:

(a) $\int x^2(2x^3 + 3)^4 dx$.

(b) $\int \frac{1}{x(\ln x)^2} dx$.

4. (a) Use a Riemann sum to approximate the area under the graph of $f(x) = x^2 - 6x + 10$ on the interval $[1,3]$, using 8 subintervals and evaluating at the *right* endpoint.

(b) Estimate whether your answer from (a) is an overestimate or an underestimate of the actual area under the curve.

(c) Calculate the actual area under the graph.

5. Find the definite integrals:

(a) $\int_1^e \frac{x^3 - x^2}{x^3} dx$.

(b) $\int_4^9 \frac{3}{\sqrt{x}} dx$.