Last update: Thu Oct 12 15:02:15 MDT 2006 /m175.fa06/handouts175/t2_175_A13/review_suggestions_2_tex

1 This list is not in final form. Like, stuff may yet be added to it.

2 Test #2 is

Friday
10/13/06.

3 There will be a with-calculator part of this exam. Bring at least a TI-30.

4 The test will cover the material of Assignments #1 – #17, and ___, roughly, that is, sections 7.4, 7.7, 7.8, 8.1, 8.2, 8.3, 10.1, 10.2, and ___.

5 Topics:

(a) Partial fractions

(b) Approximate integration and use of the error-estimate formulas.

(c)

(d)

(e)

(f)

6 Some relevant review problems:

(a) 7.5: 9, 71, 73

(b) $\displaystyle\int_{-1}^{1} \frac{6x^2 - 17x - 5}{(x-2)^2(x+3)}\,dx = \ln\left(\frac{16}{9e^2}\right)$

(c) Page 541: odds 41-49

(d) Try Simpson's rule, $n = 4$ on $\displaystyle\int_{-2}^{3} x^2\,dx$. What's the worst possible error as estimated by the textbook's error-estimate formula?

(e) 8.3: 3, 5, 7 – do each one two ways:

(i) use the methods of examples 1 and 2 of 8.3

(ii) compute the centroid of each shape, then calculate the force on the shape if it has been rotated around so as to lie horizontal at the centroid's depth.

7 Notes on relevant old-test problems:

(A) Test #3 for 4/12/02:

(a) Problem 1 – improper integrals

(B) Test #4 for 5/3/02:

(a) Problem 3 – arc length

(b) Problem 5 – a centroid

(c) Problem 6(a) – surface area

(C) Final Exam for 5/13/02:

(a) Problem 3 – decomposition

(b) Problem 5(a) – arc length

(D) Test #1 for 9/16/05:

(a) Problem 2 – an easy antiderivative-free solution?

(E) Test #2 for 10/14/05:

(a) Problem 1 – a midpoint sum.

(b) Problem 2 – midpoint-sum error.

(c) Problems 3 and 4 – partial fractions.

(d) Problem 7 – a famous improper integral for which l'Hôpital's-Rule steps must be shown.

(e) Problem 8 – more about improper integrals.

(f) Problem 10 – convergence of an improper integral without antiderivatives.

(F) Test #4 for 12/2/05:

(a) Problem 1 – trace out a parametric path.

(b) Problem 3 – the part about the slope of the graph at $\boldsymbol{t = \pi/4}$.

(G) Final Exam for 12/14/05:

(a) Problem 7 – more partial fractions

(b) Problem 10, parts (d), (g) and (h).