

Mth 256 Midterm | **Fall 2006** | **Name:**

Bent Petersen 256f2006-test.tex

Date: Nov xx 2006 Time: 50 min.

- If a scantron is provided with this test then fill in your ID information on the scantron now. Also enter your name on this test in the space provided above. Do not fold, staple or tear, etc., the scantron. Return both the entire test and the scantron (separately). If a scantron is not provided with this test, then ignore the scantron instructions, here and below.
 - This test consists of a number of multiple-choice problems and 1 work-out problem(s). Fill in the answers to the multiple-choice problems in the boxes below and on the scantron (if one is provided). Depending on your solution method your answer may appear in a different form from the ones provided on the test. You are expected to be able to provide the appropriate manipulations to identify the correct answer.
 - Do all the work for the workout problem(s) on the test pages and be sure to return the entire test. Failure to return everything will result in a substantial penalty.
 - You may use one 8.5 × 11 inch note sheet prepared in advance. You may write on both sides of your note sheet. Note sheets may not be shared. If you do not bring a note sheet you will have to do without any help notes. You may not use any books, notebooks, additional note sheets nor note cards.
 - You may use a simple scientific calculator or a modest graphics calculator on this test and you are expected to have one available. An overly elaborate calculator, laptop, handheld or notebook computer, or any device capable of extensive symbolic manipulation (other than your own brain) will not be allowed. Calculators and other equipment may not be shared.
 - During the test be sure to check the board occasionally for corrections. Note $\log(x)$ means the natural logarithm of x .
 - There are 8 multiple-choice problems worth 9 points each, 4 multiple-choice problems worth 15 points each and 1 work-out problem(s) worth 25 points each. The total number of points is 157.
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Section 1. Multiple-choice problems: 8 problems, 9 points each.

(MC problems)

Section 2. Multiple-choice problems: 4 problems, 15 points each.

(MC problems)

Section 3. Work-out problem(s): 1 problem(s), 25 points each.

(WO problems)

Don't get nervous! You may not need these integrals. The list has been created from questions asked on previous tests.

Some useful integrals

$$\int \tan(t) \, dt = \log |\sec(t)|$$

$$\int \tan^2(t) \, dt = \tan(t) - t$$

$$\int \tan^3(t) \, dt = \frac{1}{2} \tan^2(t) - \log |\sec(t)|$$

$$\int \sec(t) \, dt = \log |\tan(t) + \sec(t)|$$

$$\int t \sin(t) \, dt = \sin(t) - t \cos(t)$$

$$\int t \cos(t) \, dt = \cos(t) + t \sin(t)$$