

## MATHEMATICS 201-203-RE

Integral Calculus

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# Assignment #2

This assignment is due **Monday February 23, 2009** at the beginning of class.  
Complete solutions with exact answers are expected.

For questions involving Maple, a print-out of your work is expected, where your name is written in the Worksheet, each question is clearly labeled, and the answers are clearly presented. Also, you must copy your file in my “TEST” subfolder (W:\Tests\mhuard\203\Assignment 2), where your name should be included in the name of the file (for example: Assignment 2 – Your Name).

### Question 1 (45 points)

Evaluate the following.

a)  $\int \frac{\arctan \sqrt{x}}{\sqrt{x}} dx$

b)  $\int \sin 3x e^{5x} dx$

c)  $\int \sec^6 x dx$

d)  $\int \frac{3x^3 + 9x^2 + 12x + 16}{x^4 + 4x^2} dx$

e)  $\int \frac{x^4 + 4x^3 + 19x^2}{x^2 + 4x + 20} dx$

f)  $\int \frac{\sqrt[8]{x}}{\sqrt[4]{x} - 1} dx$

### Question 2 (5 points)

Verify all your answers in question 1 with Maple.