AMSC/CMSC 460 Quiz 5 , Fall 2002

Show all work. You may leave arithmetic expressions in any form that a calculator could evaluate. By putting your name on this paper, you agree to abide by the university's code of academic integrity in completing the quiz. Use no books, calculators, cellphones, communication with others, scratchpaper, etc.

Name _____

Student number _____

1. (10) Let

$$I = \int_2^3 \int_{-1}^{x} x^2 \cos(xy^2)\, dy\, dx\,.$$

Given a Matlab integration function `quad('f',a,b,tol)` that computes an approximation to

$$\int_a^b f(t)dt$$

within `tol` of the true value, write code to compute an approximation within 10^{-3} of I.
(Grading: 7 points for an approximation; 10 points for achieving the error tolerance.)

2. (10) Write Matlab statements to compute the product of two matrices, `A` and `B`, using the outer product formulation of summing columns of `A` times rows of `B`.