

MATH 142 - CALCULUS II (SECTIONS 11-12)
SAMPLE TEST 2 – MARCH 3, 2005

1	(24 pts)
2	(32 pts)
3	(24 pts)
4	(24 pts)
	(104)

Name: _____

Directions: No Calculators are allowed on Tests or Exams. To receive proper credit, you must show your work and *box* your final answer.

1. Find the following antiderivatives:

(a) $\int e^x \sin(2x) dx$

(b) $\int \cos^{-1}(2x) dx$

(c) $\int x \ln 2x dx$

2. Determine each of the following integrals:

(a) $\int \sin^3 x \cos^2 x dx$

(b) $\int \sin 3x \cos 2x dx$

(c) $\int \sec^3 x \tan x dx$

(d) $\int \sin^2 2x \cos x dx$

3. Use a trigonometric substitution to determine each of the following antiderivatives. In the case that the substitution produces a trigonometric integral, you do not need to reduce further.

(a) $\int \frac{dx}{(1-x^2)^{\frac{3}{2}}}$

(b) $\int \frac{3x^3}{\sqrt{25-x^2}} dx$

(c) $\int \frac{1}{\sqrt{x^2+2x+2}} dx$

4. Determine each antiderivative:

(a) $\int \frac{2x+1}{x^2-2x-2} dx$

(b) $\int \frac{2x+1}{x^2-2x+2} dx$

(c) $\int \frac{x^2}{(x-2)^3} dx$