

Math 231: Calculus 2
Exam 1
June 25, 2007

Name: _____

1) Compute the following integral:

$$\int \frac{x^2}{\sqrt{4-x^2}} dx$$

2) Compute the following integral:

$$\int \cos^3(x) \sin^{11}(x) \, dx$$

3) Determine if the following integrals converge or diverge:

a)

$$\int_1^2 \frac{1}{(x-1)^2} dx$$

b)

$$\int_2^{\infty} \frac{1}{(x-1)^2} dx$$

c)

$$\int_1^{\infty} \frac{1}{(x-1)^2} dx$$

4) Compute the following integrals:

a)

$$\int \tan^{-1}(x) \, dx$$

b)

$$\int e^x \cos(2x) \, dx$$

5) Compute the following integral:

$$\int \frac{2x^4 + 4x^3 + 8x^2 + 10x + 8}{x^3 + 2x^2 + 2x} dx$$