

SI Session Exam II Review
March 8th 12:00 PM – 2:00 PM Rm. 1229
February 11th 5:30 – 7:30 PM, Rm. 1130
February 12th 4:20 - 6:20 PM. Rm. 1229

Prof. Stockton : Calculus II : Spring 2008
SI Leader : Neil Jody

1) Evaluate each integral.

a) $\int \cos^3 x \sin^4 x dx$

b) $\int \cos^4 x dx$

$$c) \int e^x \cos x \, dx$$

$$d) \int \sqrt{x} \ln x \, dx$$

$$e) \int \frac{x}{x^2 - 6x + 5} dx$$

$$f) \int \frac{\sqrt{1-4x^2}}{x} dx$$

$$g) \int \frac{1}{x\sqrt{4+9x^2}} dx$$

2) Evaluate each limit.

$$a) \lim_{x \rightarrow 0} \frac{e^x - e^{-x}}{\sin x}$$

$$\text{b) } \lim_{x \rightarrow \infty} (5 + 2e^{2x}) e^{-2x}$$

3) Determine if each of the following improper integrals converges or diverges. If it converges, state its value.

$$\text{a) } \int_{-\infty}^0 e^{-2x} dx$$

$$\text{b) } \int_0^{\infty} \frac{1}{4+x^2} dx$$

$$\text{c) } \int_3^4 \frac{1}{(x-3)^{4/3}} dx$$