



CALCULUS II  
SPRING 2011

ASSIGNMENT 4.3  
DUE SEPTEMBER 19

**1-10** Determine whether each improper integral is convergent or divergent. Evaluate those that are convergent.

1.  $\int_1^{\infty} \frac{e^{-\sqrt{x}}}{\sqrt{x}} dx$

2.  $\int_1^{\infty} \frac{x+1}{x^2+2x} dx$

3.  $\int_0^{\infty} \frac{dz}{z^2+3z+2}$

4.  $\int_0^{\infty} se^{-5s} ds$

5.  $\int_0^{\infty} \frac{x \arctan x}{(1+x^2)^2} dx$

6.  $\int_2^3 \frac{1}{\sqrt{3-x}} dx$

7.  $\int_{-2}^{14} \frac{dx}{\sqrt[4]{x+2}}$

8.  $\int_0^{33} (x-1)^{-1/5} dx$

9.  $\int_0^1 \frac{e^{1/x}}{x^3} dx$

10.  $\int_0^2 z^2 \ln z dz$