Math 1552, Integral Calculus
Section 8.8: Improper Integrals

1. Evaluate the improper integral if it converges, or show that the integral diverges.

$$\int_1^3 \frac{1}{(x^2-1)^{3/2}}\,dx$$

2. Evaluate the improper integral if it converges, or show that the integral diverges.

$$\int_0^\infty x^2 e^{-2x}\,dx$$

3. For what values of p does the integral $\int_4^\infty \frac{dx}{x(\ln x)^p}$ converge?

4. Find the area bounded by the curve $y = \frac{1}{x^2+9}$, the x-axis, and $x \geq 0$.