This quiz is due next Tuesday at the beginning of ESP.

1.) (15 pts. each) Evaluate the following improper integrals. You must make proper use of notation and limits.

a.)
$$\int_{1}^{\infty} \frac{1}{x^3} dx$$

$$b.) \int_0^1 \frac{1}{\sqrt{x}} \, dx$$

$$c.) \int_2^\infty \frac{1}{x^2 + 4} \, dx$$

d.)
$$\int_{1}^{\infty} xe^{-x} dx$$
 (At some point you must use L'Hopital's rule on this problem.)