# Improper integral

An *improper integral* is a definite integral in which one or both of the limits is infinite, or where the function being integrated becomes infinite at some point within the limits.

For example,

$$\int_{-1}^{1} \frac{1}{x^2}\, dx,$$
$$\int_{0}^{\infty} e^{-x}\, dx$$

are both improper.

In some cases, an improper integral can be evaluated fairly straightforwardly. In other cases, it is not possible.

Last updated 25-Oct-16