

Math 102 — Improper integrals

Problem. Determine whether the following improper integrals converge or diverge.

a. $\int_1^{\infty} \frac{1}{(x+2)^4} dx$

b. $\int_5^{\infty} \frac{1}{(x-1)^{1.5}} dx$

c. $\int_2^{\infty} \frac{\ln x}{x} dx$

d. $\int_0^{\infty} xe^{-x^2} dx$