

5. [10 points] Determine whether the following integrals converge or diverge. If the integral converges, find the exact value. You must show all work, and perform any integral computations by hand.

a. [5 points] $\int_2^{\infty} \frac{dx}{x(\ln(x))^2}$

b. [5 points] $\int_1^3 \frac{x}{(x-3)^3} dx$