

Math 232 Worksheet 9 - Improper Integrals

Evaluate the improper integral.

$$\begin{aligned} (1) \int_1^{\infty} \frac{1}{x^{1.1}} dx & \quad (2) \int_1^{\infty} \frac{1}{x^{0.9}} dx & (3) \int_0^{\infty} e^{-x} dx & \quad (4) \int_0^{\infty} x^2 e^{-x} dx \\ (5) \int_1^2 \frac{1}{x-1} dx & \quad (6) \int_0^1 \frac{1}{x^{1.1}} dx & (7) \int_0^1 \frac{1}{x^{0.9}} dx & \quad (8) \int_0^1 \frac{\ln x}{\sqrt{x}} dx \end{aligned}$$

Answer Keys:

(1) 10 (2) ∞ (3) 1 (4) 2 (5) ∞ (6) ∞ (7) 10 (8) -4