

M1B/Schoenbrun Section 5.10 Improper Integrals 2

Evaluate the improper integrals that converge.

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

$$2) \int_0^2 \frac{x}{\sqrt{1-x^2}} dx$$

$$3) \int_0^{\infty} \frac{dx}{x(\ln x)^2}$$

$$4) \int_0^1 x \ln x \, dx$$

$$5) \int_0^5 \frac{x}{\sqrt{x^2 - 9}} \, dx$$