

Evaluate the following assortment of definite and indefinite integrals.

(a) $\int_{\ln(5)}^{\ln(9)} e^{2r} dr$

(b) $\int_{-4}^4 |x| dx$

(c) $\int_0^{\pi/2} \frac{\sin(x)}{1 + \cos^2(x)} dx$

(d) $\int \frac{\cos(\ln(y))}{y} dy$

(e) $\int x^2 2^{x^3+1} dx$

(f) $\int \frac{dx}{x^2 + 6x + 13}$

(g) $\int \frac{x^2 + \ln(x)}{x} dx$

(h) $\int_0^4 \frac{x^3}{\sqrt{x^2 + 1}} dx$