

QUESTION

Find $\int \left(1 + \frac{1}{x}\right)^2 dx$.

ANSWER

$$\int \left(1 + \frac{1}{x}\right)^2 dx = \int \left(1 + \frac{2}{x} + \frac{1}{x^2}\right) dx = \int 1 dx + \int \frac{2}{x} dx + \int x^{-2} dx = x + 2 \ln |x| - \frac{1}{x} + c$$