

QUESTION

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

ANSWER

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