

Solve $(1-x^2)(1-y)du = xy(1+y)dy$

Solⁿ = ~~$y = 1-t$~~

$y = 1-t$
 $1-y = t \rightarrow -dy = dt$

$\frac{(1-x^2)}{x} du = \frac{y(1+y)dy}{1-y}$

$= \frac{-(1-t)(2-t)}{t} dt$

$= \frac{-(t^2 - 3t + 2)}{t} dt$

$\int \left(\frac{1}{x} - x \right) du = \int \left(-t + 3 - \frac{2}{t} \right) dt$

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$$\ln x = \frac{x^2}{2} - \frac{t^2}{2} + 3t - 2 \ln t + C$$

$$\ln x = \frac{x^2}{2} = -\frac{1}{2} (ty)^2 + 3(ty)$$

$$- 2 \ln (ty) + C$$