What you'll Learn About

- Solutions to Differential Equations

The derivative is given

Find the general solution to the differential equation given below

A) $\frac{dy}{dx} = \csc x \cot x - e^{-x}$

$y = -\csc x + e^{-x} + C$

B) $\frac{dy}{dx} = 2^x \ln 2 + \frac{1}{\sqrt{1-x^2}}$

$y = 2^x + \arcsin(x) + C$

C) $\frac{dy}{dx} = 5x^4 \sec^2(x^5)$

$y = \tan(x^5) + C$

D) $\frac{dy}{dx} = 10(\cos x)^4 \sin x$

$y = \frac{-(10)1}{5}(\cos x)^5$

$y = -2(\cos x)^5 + C$

$\int \frac{1}{x} = \ln x + C$

$\int \frac{1}{x^2} = \int x^{-2}\,dx = -x^{-1} + C = \frac{-1}{x} + C$

$\int \frac{1}{\sqrt{x}} = \int x^{-1/2} = 2x^{1/2} + C$