

Solve the initial value problem: $y' - y \tan x = \sin x$, $y(0) = 1$.

Solve the differential equation (IVP) $y' + \frac{3}{x}y = \frac{2}{x^2}$ with the initial condition $y(1) = 2$.

Find the general solution of the differential equation $y = (2y^4 + 2x) y'$.