

M1B/Schoenbrun Section 7.2 Separable Variables

Solve the differential equations

1) $\frac{dy}{dx} = xy^2$

2) $\frac{dy}{dx} = xe^{-y}$

Find the solution to the differential equation that satisfies the given initial condition.

3) $\frac{dy}{dx} = \frac{x}{y}$ where $y(0) = -1$

4) $\frac{dy}{dx} = \frac{xy \sin x}{y+1}$ where $y(0) = 1$