

Differential Equations

Find the particular solution to the following differential equations with the given initial conditions.

1. $\frac{dy}{dx} = \frac{x}{y}; y(1) = 3$

2. $\frac{dy}{dx} = 2xy; y(0) = -6$

3. $\frac{dy}{dx} = -2y; y(0) = 1$

a. What is the value of x for which $y = \frac{1}{2}$?