

EXAMPLES OF SEPARABLE EQUATIONS

1.
$$\frac{dy}{dx} = 3x^2 e^{-y}, \quad y(0) = 1.$$

2.
$$\frac{dy}{dx} = -\frac{y^2}{x}, \quad x \neq 0.$$

3. $\frac{dy}{dx} = \frac{x^4}{y^4}.$

4. $\frac{dy}{dx} = \frac{\cos x}{y}.$

5.
$$\frac{dy}{dx} = \frac{x^2}{1 + y^5}.$$

6.
$$\frac{dy}{dx} = -y(1 - y), \quad y(0) = 2.$$