

Exercise 1

(1/23/06)

Determine whether the following equations are separable:

1. $y^4 dx + (y^2 + 2)e^{-3x} dy = 0,$

2. $\frac{dy}{dx} = \frac{xy+3x-y-3}{xy-2x+4y-8},$

3. $e^x y \frac{dy}{dx} = e^{-y} + e^{-2x-y},$

4. $x \frac{dy}{dx} - 4y = x^6 e^x.$