

Tutorial 4

Solve

1. $(x - y^2)dx + 2xydy = 0$

2. $xdy + ydx = \frac{xdy - ydx}{x^2 + y^2}$

3. $(1 + e^{x/y})dx + e^{x/y}(1 - \frac{x}{y})dy = 0$

4. $(x + 2y - 3)dy - (2x - y + 1)dx = 0$

5. $\frac{dy}{dx} = \frac{(x+y-1)^2}{4(x-2)^2}$

6. $(1 + y^2) + (x - e^{-\tan^{-1}y})\frac{dy}{dx} = 0$

7. $\frac{d^4y}{dx^4} - 2\frac{d^2y}{dx^2} + y = 0$

8. $\frac{d^4y}{dx^4} - a^4y = 0$

9. $\frac{d^4y}{dx^4} + y = 0$

10. $\frac{d^3y}{dx^3} + y = 3 + e^x + 5e^{2x}$

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

12. $\frac{d^3y}{dx^3} + 3\frac{d^2y}{dx^2} + 2\frac{dy}{dx} = x^2$

13. $\frac{d^2y}{dx^2} - 5\frac{dy}{dx} + 6y = \sin 3x$

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