

Вариант 16.

1. $xydx = -(x+1)dy$

2. $y' = \frac{y}{x} + \cos^2 \frac{y}{x}$

3. $x^2y' - x = 2(y - xy')$

4. $xy^2y' = x^2 + y^3, y(1) = 0$

5. $\frac{2xdx}{y^3} + \frac{y^2-3x^2}{y^4}dy = 0$

6. $y'' = \frac{y'}{x} \left(1 + \ln \frac{y'}{x}\right), y(1) = y'(1) = e$

7. $y''(1+y) = 5(y')^2$

8. $y'' - 2y' + 2y = 0, y(0) = 1, y'(0) = 0$

9. $y''' + 9y' = 0$

10. $y'' + 5y' = x^3 - 2x + 1$

11. $y'' + 2y' + y = 2 \sin 2x$

12. $y'' + y = 3 \cos x$

13. $y'' + 5y' + 4y = xe^{-x} \sin x + x^2e^{-x} \cos x$

14. $y'' + y = 2 \operatorname{ctg} x$

15. $y''' + y'' = e^{-x}$