Вариант 14.

1. $\left(1-e^{2x}\right)y' = 2ye^x$
2. $x^2y' = x^2 + xy + y^2, y(1) = 0$
3. $y' = x^3 + y$
4. $xy' - y = \frac{x^5}{y^3}$
5. $\frac{xdy}{x^2+y^2} = \left(\frac{y}{x^2+y^2} - 1\right)dx$
6. $y''\left(x^3+1\right) = 3x^2y', y(1) = 5, y'(1) = 8$
7. $2yy'' = (y')^2$
8. $y'' - y = 0, y(0) = 1, y'(0) = 0$
9. $y''' + 2y'' + 10y' = 0$
10. $y'' + 4y' = -xe^{-4x}$
11. $y'' + y' - 2y = 5\cos 2x$
12. $y'' + 9y = 3\sin 3x$
13. $y'' + 2y' + 2y = e^x\cos x + x^2e^x\sin x$
14. $y'' + 4y = 2\operatorname{tg} 2x$
15. $y^{(V)} + 2y^{(IV)} + y''' = 2$