

Вариант 11.

1.  $(1 + e^{2x}) y^2 dy = e^{2x} dx$

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

3.  $y' - 3x^2 y = x^2, y(0) = \frac{2}{3}$

4.  $xy' = 4y + 2x^2 \sqrt{y}$

5.  $e^y dx + (xe^y - 2y) dy = 0$

6.  $y'' - 2y' \operatorname{ctg} x = \sin^3 x$

7.  $yy'' - (y')^2 = y', y(1) = 2, y'(1) = 1$

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

9.  $y''' + 3y'' + 2y' = 0$

10.  $y'' - 2y' = e^{2x} + 5$

11.  $y'' - 2y' + 10y = \sin 3x$

12.  $y'' + 4y = 2 \cos 2x$

13.  $y'' - 5y' + 6y = (x^2 + 1) e^x + e^x \sin x$

14.  $y'' + 3y' + 2y = \frac{3}{e^x + 1}$

15.  $y''' + 4y'' + 3y' = 3e^x$