

Esercitazione analisi 1

8/1/2026

Esercizio 1

1.

$$y'(x) = 2xe^{x^2}y(x)$$

2.

$$y'(x) = (1 + \ln x)y(x)$$

3.

$$y'(x) = y(x) + x$$

4.

$$y'(x) = 2xy(x) + e^{x^2} \cos x$$

5.

$$y''(x) - 10y'(x) + 25y(x) = 0$$

6.

$$y''(x) - 2y'(x) - 15y(x) = 0$$

7.

$$y''(x) - 6y'(x) + 10y(x) = 0$$

8.

$$y'''(x) - y''(x) = 0$$

9.

$$y'''(x) - y''(x) - y'(x) + y(x) = 0$$

10.

$$y''(x) - 5y'(x) + 6y(x) = e^x$$

11.

$$y''(x) - 2y'(x) + y(x) = e^x$$

12.

$$y''(x) - 2y'(x) - 3y(x) = (2x + 1)e^x$$

Esercizio 2

1.

$$\begin{cases} y'(x) = 2y(x) + 1 \\ y(0) = 1 \end{cases}$$

2.

$$\begin{cases} y''(x) - y'(x) - 2y(x) = 0 \\ y(0) = 0 \\ y'(0) = 3 \end{cases}$$

3.

$$\begin{cases} y'''(x) - 2y''(x) + 5y'(x) = 0 \\ y(0) = 0 \\ y'(0) = 1 \\ y''(0) = 0 \end{cases}$$