

Analysis
Supplementary problems
Differential equations

Exercise 1. Resolve the following differential equations:

1.

$$y' - (x^2 + x + 1)y^2 = 0. \quad (1)$$

2.

$$xy' - y = 0. \quad (2)$$

3.

$$(x^2 - 1)y' - 2xy^2 = 0 \quad (3)$$

Exercise 2. Resolve the following differential equations: :

1.

$$xy' - y - x = 0. \quad (4)$$

2.

$$x^2y' - xy = y^2. \quad (5)$$

Exercise 3. Resolve the following differential equations:

1.

$$y'' + 4y' + 4y = 0. \quad (6)$$

2.

$$2y'' + 3y' - 5y = 0. \quad (7)$$

3.

$$y'' + 2y' + 3y = 0. \quad (8)$$