

1. Rešiti metodom varijacije konstanti, a potom proveriti rešenje pogađačkom metodom:

$$a) y'' - 5y' + 6y = 2e^x \quad b) y'' - y' - 2y = 2e^{-x}$$

$$c) y'' + 2y' + y = 3e^{-t} \quad d) 4y'' - 4y' + y = 16e^{t/2}$$

2. Rešiti

$$a) y'' + y = \tan t, \quad 0 < t < \pi/2 \quad b) y'' + 9y = \frac{9}{\cos^2(3x)}, \quad 0 < t < \pi/6$$

$$c) y'' + 4y' + 4y = t^{-2}e^{-2t}, \quad t > 0 \quad d) y'' + 2y' = 3 + 4 \sin 2t$$

$$e) y'' + 9y = t^2e^{3t} + 6 \quad f) y'' + 4y = t^2 \sin 2t + (6t + 7) \cos 2t$$

3. Rešiti početni problem:

$$a) y'' + y' - 2y = 2t, \quad y(0) = 0, \quad y'(0) = 1$$

$$b) y'' + 2y' + 5y = 4e^{-t} \cos 2t, \quad y(0) = 1, \quad y'(0) = 0$$

$$c) y'' - 2y' - 3y = 3te^{2t}, \quad y(0) = 1, \quad y'(0) = 0$$

$$d) y'' + 4y = 3 \sin 2t, \quad y(0) = 2, \quad y'(0) = -1$$