

Differential Equations

Lab 8

second-order differential equations

1) Find the general solution

$$y'' + \frac{y'}{x+1} = 9(x+1)$$

2) Solve the i.v.p.

$$y^3 y'' = 4(y^4 - 1)$$

$$y(0) = \sqrt{2}; y'(0) = \sqrt{2}$$

3) Find the general solution

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