

HOMEWORK #9 (Chapter 3 Higher –Order Differential Equations)

In problem 1-4, solve the given differential equation by using the substitution $u = y'$.

1. $y'' + (y')^2 + 1 = 0$ (Exercises 3.7 Problem 3)
2. $y'' = 1 + (y')^2$ (Exercises 3.7 Problem 4)
3. $x^2 y'' + (y')^2 = 0$ (Exercises 3.7 Problem 5)
4. $(y + 1)y'' = (y')^2$ (Exercises 3.7 Problem 6)