Lec 31 Worksheet

Solve the differential equation and solve the initial value problem if an initial condition is specified.

1. $y' = x - y$
2. $y' - y = e^x$
3. $xy' - 2y = x^4 \sin x$
4. $xy' - 2y = x^2$
5. $y' + y \cot x = \csc x$
6. $xy' + 2y = 10x^2,\ y(1) = 3$
7. $y' + y = e^{-x},\ y(0) = 1$
8. $(x^2 - 1)y' + 2xy = x$
9. $y' = y \tan x - \sec x,\ y(0) = 1$
10. $y' + \dfrac{2y}{x} = \dfrac{\cos x}{x^2},\ y(\pi) = 0$
11. $2y' + y = 3x^2$
12. $y' + 2xy = 2xe^{-x^2}$