Homework 1

Name:

Solve the following equations:

1. \((t^2 - 1)x' + 2tx^2 = 0, \ x(0) = 1\)

2. \(2t^2x' + x^2 = 2\)

3. \(x' - tx^2 = 2tx\)

4. \(x' = 10^{t+x}\)

5. \(x' = \cos(x - t)\)

6. \(x^2 + t^2x' = tx'x\)

7. \(tx' = x - te^{x/t}\)

8. \(tx' = x \cos(ln(x/t))\)

9. \(t^3(x' - t) = x^2\)

10. \(x' = x^2 - 2/t^2\)