MATH 4305 - Ordinary Differential Equations II
Homework 0.2 - Linear, Homogeneous and Bernoulli Equations
Due - Friday, August 28, 2015

Solve each differential equations. These equations are either separable, linear, homogeneous or Bernoulli.

1. $\dfrac{dy}{dx} = \dfrac{2xy}{x^2 - y^2}$

2. $\dfrac{dy}{dx} = \dfrac{3x^2 + 2y^2}{2xy}$

3. $\dfrac{dy}{dx} - \dfrac{2}{x}y = 0$

4. $\dfrac{dy}{dx} - 7y = e^x$

5. $\dfrac{dy}{dx} + y = y^2$

6. $\dfrac{dy}{dx} + y = ye^x$

7. $\dfrac{dy}{dt} + y = y^3$

8. $\dfrac{dy}{dt} + t^2 y = t^2$