Math 16C
Vogler
Worksheet 2

Use any method to solve the following differential equations.

1.) $y' + y^3 = y$ with $x = 0$ and $y = 2$

2.) $y' + 2y = e^{-2x} \cot^2(7x)$

3.) $y' \cdot \cos^2 x + y = 1$

4.) $xy' + 2y = x \cos x$

5.) $\tan x \cdot y' = y^2(y + 1) \cot x$

6.) $\cos(5x^2) \cdot y' = x \cdot \sec^2(3y)$

7.) $(e^{2x} - e^x) \cdot e^{2y} \cdot \sin(e^y) \cdot y' = (1 + e^x)e^x$

8.) $\cos^3 y \cdot \sin y \cdot dy = \tan^3(10x) \cdot dx$