

NAME:

Home Work 3.  
MAP 2302 - Differential Equations

Solve the following Ordinary Differential Equations(ODE):

1.  $y' + y = xy^3$

2.  $xy' + y = -2x^6y^4$

3.  $y' - \frac{1}{x}y = -\frac{y^2}{x}$

4.  $y' + \frac{y}{2x} = \frac{x}{y^3}; y(1) = 2$

5.  $xy' + y = (xy)^{\frac{3}{2}}; y(1) = 4$

6.  $x^2y' + xy = \frac{y^3}{x}; y(1) = 1$

7.  $\cos y \cdot y' + \frac{1}{x} \sin y = 1$

8.  $(y + 1)y' + x(y^2 + 2y) = x$

9.  $\frac{1}{y}y' + \frac{3 \ln y}{x} = 6x^2$