Ma 221       Exam IA       09S

I pledge my honor that I have abided by the Stevens Honor System.

You may not use a calculator, cell phone, or computer while taking this exam. All work must be shown to obtain full credit. Credit will not be given for work not reasonably supported. When you finish, be sure to sign the pledge.

Score on Problem #1 _______
   #2 _______
   #3 _______
   #4 _______

Total Score _______
Solve:

1 [25 pts.]

\[(ye^{xy} - \frac{1}{y})dx + \left(xe^{xy} + \frac{x}{y^2} + y^2\right)dy = 0, \ y(1) = 1\]
2 [25 pts.]

\[ ty' + 2y = t^2 - t + 1 \quad y(1) = \frac{1}{2} \]

3 [25 points]

\[ y' + 7y^4 = 9x^2y^4 \quad y(0) = 1 \]
4 [25 pts.]

\[ y' + xy = xe^{-x^2}y^{-3} \]