Ma 221 **Exam IB** **10S**

Name: _____

Lecture Section: _____

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 _____

Name _____ Lecturer: _____

Lecture Section: _____

1 [25 **pts**.] Solve

$$\left(2+y^2\right)+2(x-1)y\frac{dy}{dx}=0, \qquad y(2)=1.$$

Name _____ Lecturer: _____

Lecture Section: _____

2 [25 **pts**.] Solve

$$ty' + 5y = 7t^2, \qquad y(1) = 3$$

Name _____ Lecturer: _____

Lecture Section: _____

3 [25 **pts**.] Solve

$$(2y - \cos y)y' + 2t = \cos t, \qquad y(0) = \pi$$

Name _____ Lecturer: _____

Lecture Section: _____

4 [25 **pts**.] Solve

$$\frac{dy}{dx} = 3x^{-1} + 2e^{-y}, \quad y(1) = 0$$

Hint: Use the substitution $z = e^{y}$.