MATH 328 – Ordinary Differential Equations

**Review for Exam I**

For each of the following, classify as seperable, linear, homogeneous, or exact, and solve.

i. $y' = \frac{x^2}{1+y^2}$

ii. $y' = \frac{1+y^2}{x^2}$

iii. $y' = 2y + te^{2t}$

iv. $y' = \frac{x^2+xy+y^2}{x^2}$

v. $(e^x \sin y - 2ysinx) + (e^x cosy + 2cosx)y' = 0$