Math 217 - September 17, 2010

- Euler's method

1. Solve and find $y(1)$: $y' = x + y; y(0) = 1$
2. Solve and find $y(1)$: $y' = x^2 - y^2, y(0) = -1$.
3. Solve and find $y(1)$: $y' = y \sin y + x, y(0) = 0$

Lecture Problems

4. Use Euler's method to approximate $y(1)$: $y' = x^2 - y^2, y(0) = -0.5$. Use $h = 0.5$.
5. Use Euler's method to approximate $y(1)$: $y' = y \sin y + x, y(0) = 0$. Use $h = 0.5$.
6. Use Euler's method to approximate $y(2)$: $y' = x^2 - y^2, y(1) = -1$. Use $h = 0.25$.
7. Use Euler's method to approximate $y(-1)$: $y' = y \sin y + x, y(0) = 0$. Use a step size of 0.25.