Euler's Method to Approximate the Solution to a Differential Equation Name: _____

1) Let y = f(x) be the particular solution to the differential equation y' = x + y with initial condition f(0) = 1. Use Euler's Method to approximate f(1) using 5 equal step sizes.

2) Given $\frac{dy}{dx} = 3x - 2y$ and y(1) = 3, approximate y(0) using Euler's Method with 4 equal step sizes.

3) Use Euler's Method with 4 equal step sizes to approximate the value of y(4) given y(2) = -2 and $\frac{dy}{dx} = y$.

4) Given the differential equation $\frac{dy}{dx} = 0.5x(3 - y)$ and initial condition y(1) = 2. Use separation of variables to determine the value of y(0). Next, use Euler's Method with 2 equal step sizes to approximate y(0).