Name: _____

You will have twenty minutes to take this quiz. Read the instructions carefully. There are more questions on the back of this page.

1. (*4 points*) *You do not need to show your work. Only the answer will be graded.*

1. (*2 points*) Suppose that

$$y' = y^2 + x, \quad y(2) = -1$$

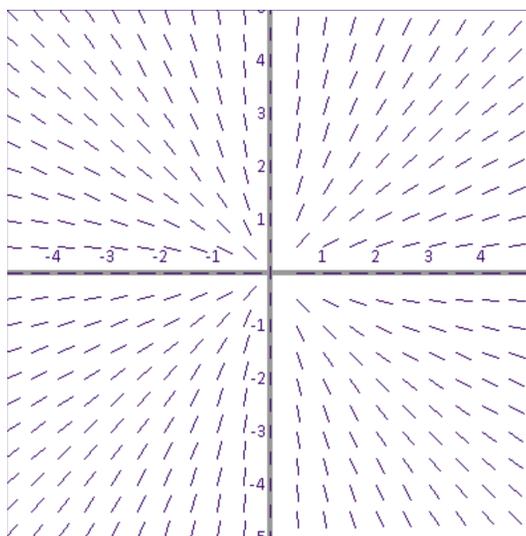Use Euler's method with step size 0.1 to approximate $y(2.1)$.

2. (*2 points*) Circle the differential equation that corresponds to the slope field shown below.

$$y' = y/x \qquad\qquad y' = \sin(x) \qquad\qquad y' = x + y \qquad\qquad y' = -x/y$$

2. (*6 points*) *Show your work. Partial credit may be awarded.* Find a solution to the initial value problem

$$x\frac{dy}{dx} + 2y = \frac{e^{2x}}{x}$$
$$y(1/2) = 0$$