

5. [16 points] Consider a differential equation $y' = f(x, y)$ with initial condition $y(0) = 1$. Using two different numerical methods, we obtain the following approximations to the solution of this initial value problem. Note that the error in the approximations is included in the tables.

Method 1:	x	0	0.5	1.0	1.5	2.0
	y	1	1	1.1980	1.4238	1.5949
	error	0	0.1071	0.1408	0.0794	-0.0358

Method 2:	x	0	0.5	1.0	1.5	2.0
	y	1	1.1137	1.3365	1.4558	1.4854
	error	0	-0.0066	0.0023	0.0475	0.0736

- a. [3 points] What is the value of h used in the numerical approximations?
- b. [7 points] One of the methods shown is Euler's method, and the other is improved Euler. Which is which? Why?

- c. [6 points] Given the data above, which of the slope fields to the right could be the slope field for this differential equation? Explain.

