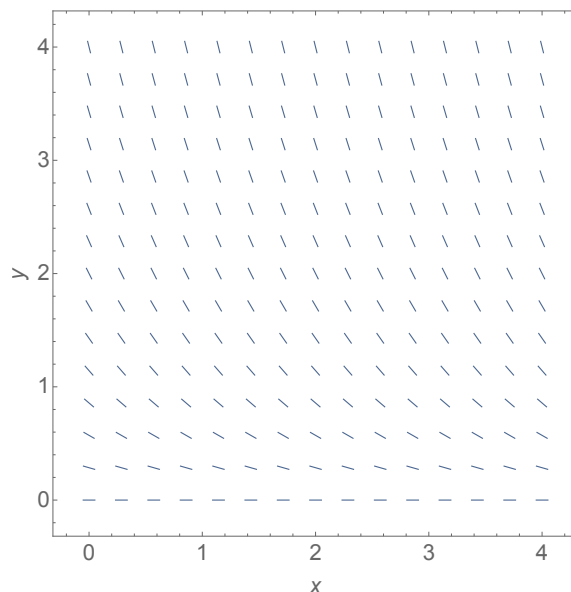The differential equation $\dfrac{dy}{dx} = -y$ has the slope field shown below.

1. Use Euler's method with a step size of $\Delta x = 0.5$ to approximate the solution through $(0, 4)$. Plot each point (x, y) as you get it.

Step	(x, y)	Slope	$\Delta y = \text{Slope} \cdot \Delta x$	New y
0	(0,4)	-4	-2	2
1	(0.5,2)			
2				
3				
4				
5				
6				
7				
8				

2. Find the exact solution. How does it compare to the approximate solution found by Euler's method when $x = 4$?