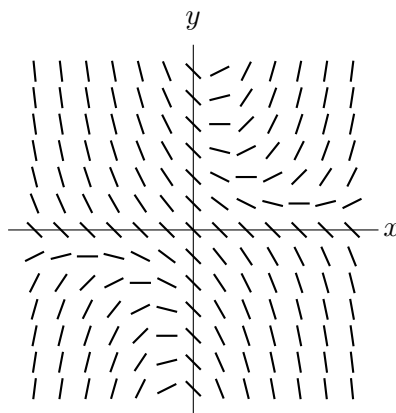


1. [10 points] Consider the differential equation $y' = xy - 1$.
- a. [2 points] The slope field of $y' = xy - 1$ is shown below. On the graph, sketch a solution curve passing through the point $(0, 0)$.



- b. [5 points] Starting with the initial condition $y(0) = 0$, use Euler's method with 3 steps to estimate $y(3/2)$. Show your work for each step.
- c. [3 points] Can you determine if your estimate of $y(3/2)$ is an underestimate or overestimate? Circle your answer and **explain** your reasoning in one sentence.

Underestimate

Overestimate

Not enough information