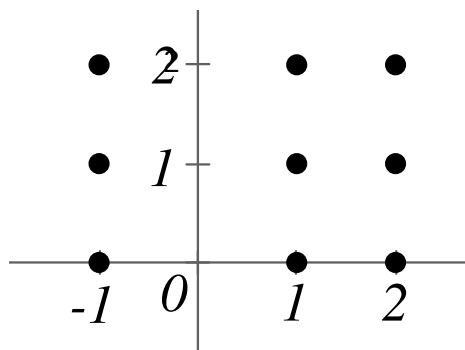


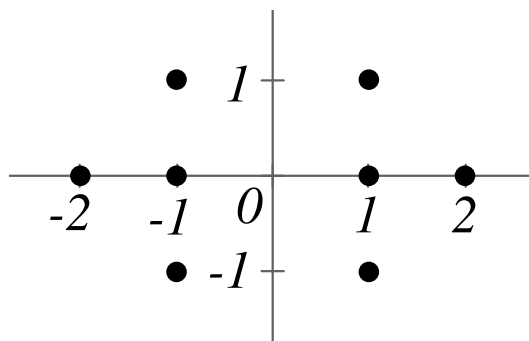
HW 6-1 Slope Fields Euler's Method NAME: _____

Draw a slope field for each of the following differential equations

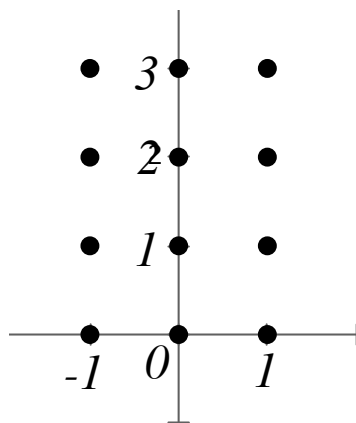
1) At 9 points indicated for $\frac{dy}{dx} = \frac{y-1}{x^2}$



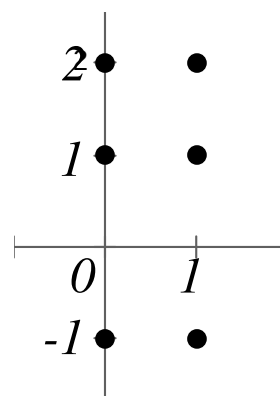
2) At 8 points indicated for $\frac{dy}{dx} = \frac{1+y}{x}$



3) At 12 points indicated for $\frac{dy}{dx} = x^2(y-1)$

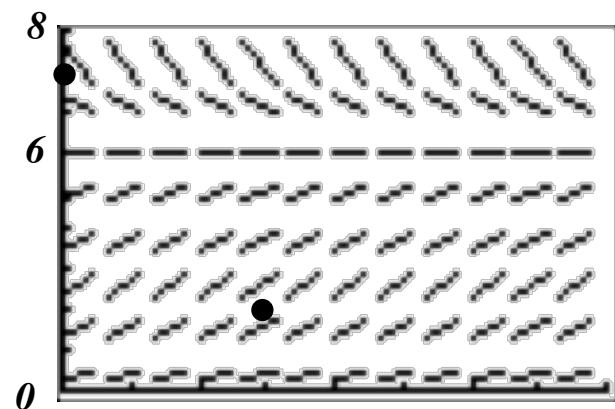


4) At 6 points indicated for $\frac{dy}{dx} = 2x - y$

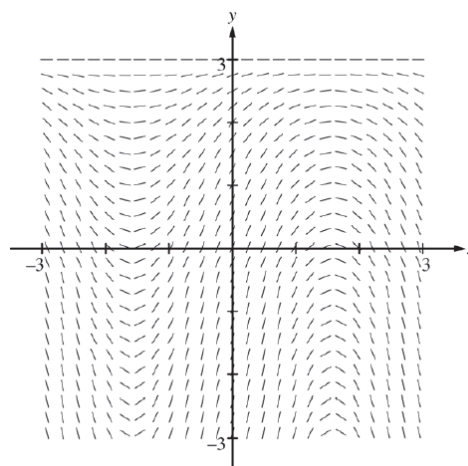


Here are the slope fields for the given differential equations. Sketch the solution for the given point.

5) $\frac{dy}{dx} = \frac{y}{8}(6-y)$ thru $(0, 7)$ $(3, 2)$



6) $\frac{dy}{dx} = (3-y)\cos x$ thru $(0, 1)$



7) Given $\frac{dy}{dx} = y^2(2x+2)$ and $f(0) = -1$, use Euler's method, starting at $x = 0$ with two steps of equal size to approximate $f\left(\frac{1}{2}\right)$.

8) Given $\frac{dy}{dx} = 2x - y$ and $f(1) = 3$, use Euler's method, starting at $x = 1$ with three steps of equal size to approximate $f(1.6)$.

9) The table below right gives values of f' , a derivative of a function f . If $f(1) = 4$, what is the approximation to $f(2)$ obtained by using Euler's method with a step size of 0.5?

x	$f'(x)$
1	0.2
1.5	0.5
2	0.9

- A) 2.35 B) 3.65 C) 4.35 D) 4.70 E) 4.80