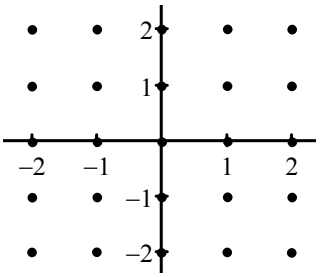
7.3 Sketching Slope Fields

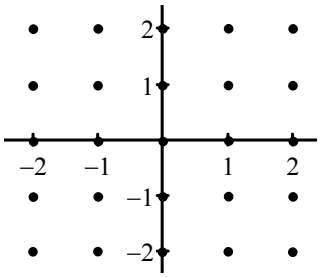
Calculus Name: _____ **CA #2**

Draw a slope field for each of the following differential equations. Use each of the coordinate points shown in the graph.

1. $\frac{dy}{dx} = x^2 + y$

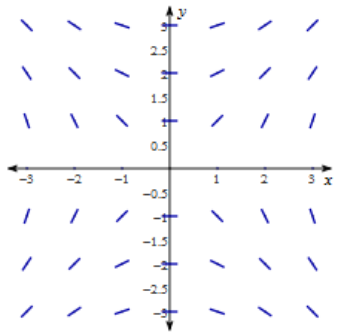


2. $\frac{dy}{dx} = \frac{x}{y^2}$



Match the differential equation with its slope field.

3.



(A) $\frac{dy}{dx} = x + y$

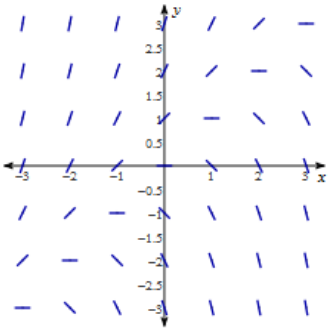
(B) $\frac{dy}{dx} = \frac{x}{y}$

(C) $\frac{dy}{dx} = \frac{y}{x}$

(D) $\frac{dy}{dx} = (x-1)y$

(E) $\frac{dy}{dx} = x(y-1)$

4.



(A) $\frac{dy}{dx} = y - x$

(B) $\frac{dy}{dx} = -\frac{x}{y}$

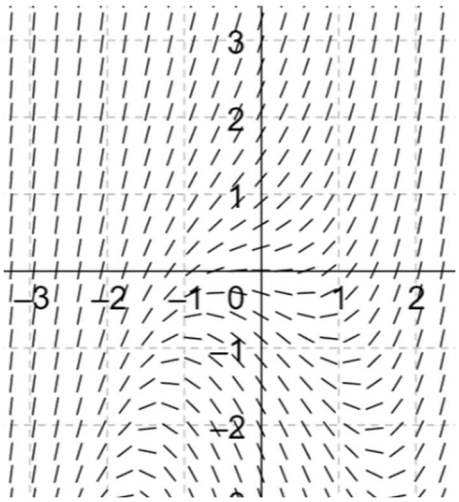
(C) $\frac{dy}{dx} = -\frac{y}{x}$

(D) $\frac{dy}{dx} = y(x-1)$

(E) $\frac{dy}{dx} = x(y-1)$

5. The figure below shows the slope field for the differential equation $\frac{dy}{dx} = x^2 + y$

Let f be the function that satisfies the given differential equation. Write an equation for the tangent line to the curve $y = f(x)$ through the point $(-1, -2)$.



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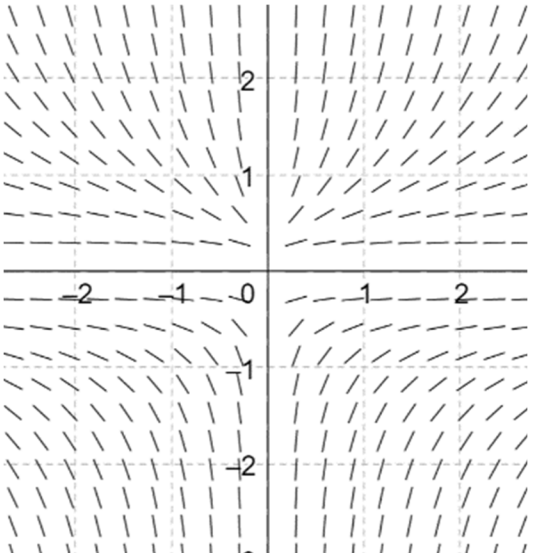
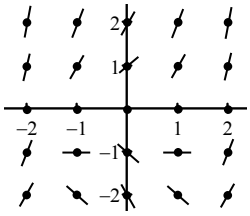
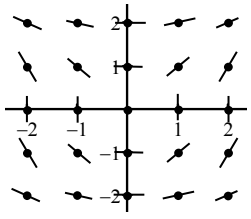
6. The figure below shows the slope field for the differential equation $\frac{dy}{dx} = \frac{y^2}{x}$

Let f be the function that satisfies the given differential equation. Write an equation for the tangent line to the curve $y = f(x)$ through the point $(2, -1)$.



Answers to 7.3 CA #2

1. 	2. 	3. B	4. A
		5. $y + 2 = -(x + 1)$	6. $y + 1 = \frac{1}{2}(x - 2)$