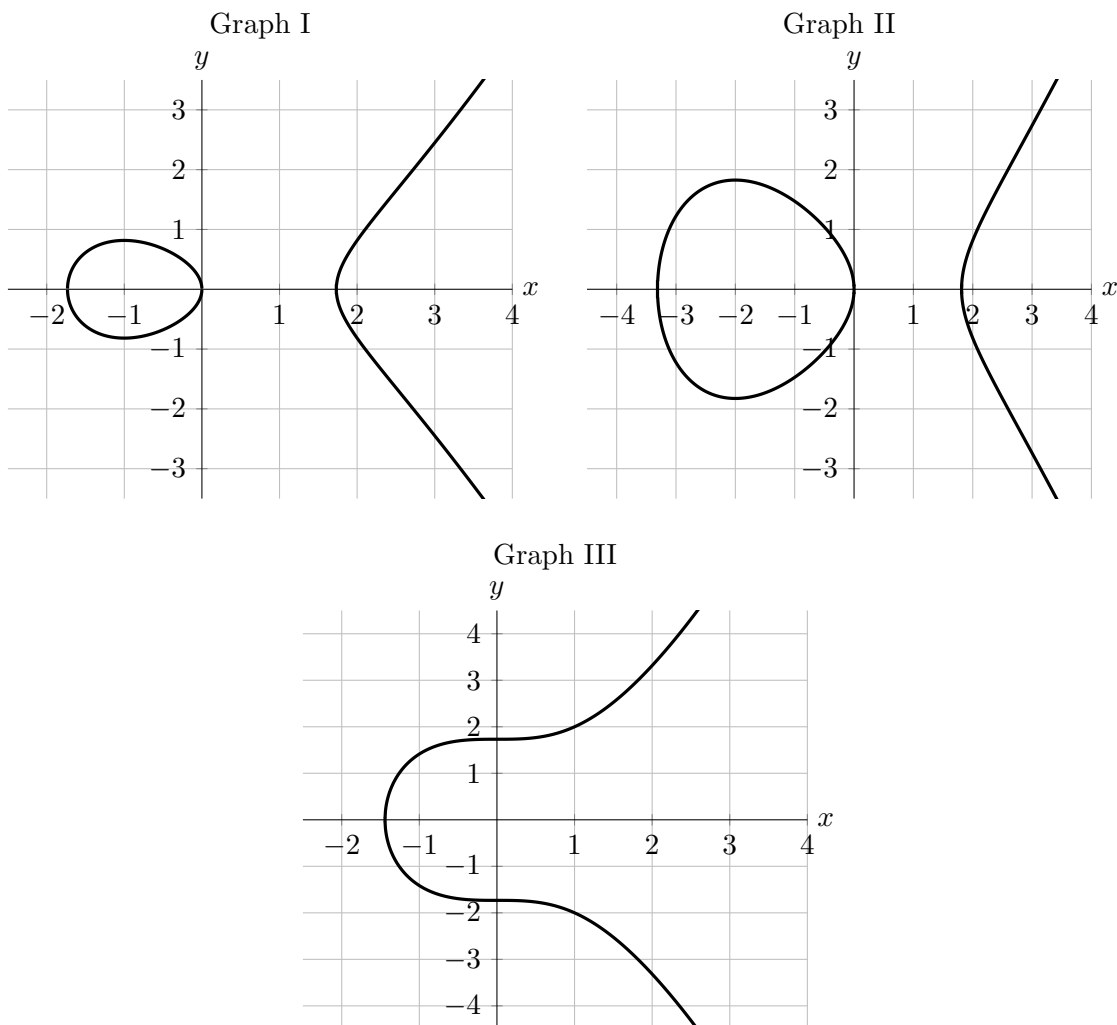


2. [12 points]

a. [6 points] Each the following is the graph of an implicit function.



Match each of the graphs above to the formula below that gives the slope at each point on the graph.

(A) $\frac{dy}{dx} = \frac{3x^2}{2y}$,

(C) $\frac{dy}{dx} = \frac{x^2 - 1}{2y}$,

(B) $\frac{dy}{dx} = \frac{(x - 1)(x + 2)}{2y}$,

(D) $\frac{dy}{dx} = \frac{(y - 1)(y + 2)}{2x}$.

You do not need to show work in this part.

Answers: Graph I: _____, Graph II: _____, Graph III: _____

b. [6 points] Find $\frac{dy}{dx}$ for the implicit function given by

$$2^{x+y} + \sin(x) \cos(y) = 5 - x.$$

Show all your work carefully to receive full credit.

Answer: $\frac{dy}{dx} =$ _____