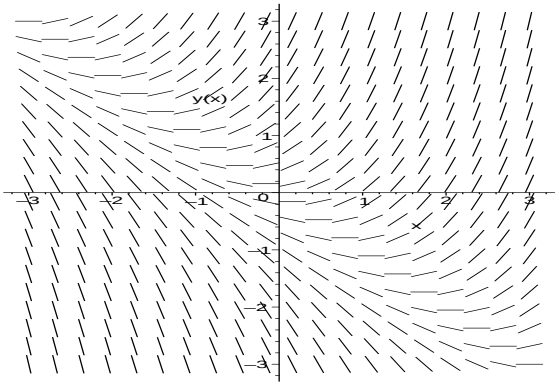
1. (4 points) Circle the differential equation whose slope field is shown in the figure.

A. $\dfrac{dy}{dx} = \sin x$ B. $\dfrac{dy}{dx} = -y$ C. $\dfrac{dy}{dx} = x^2 + y^2$

D. $\dfrac{dy}{dx} = x + y$ E. $\dfrac{dy}{dx} = x - 2y$ F. $\dfrac{dy}{dx} = \sin(x + y)$



2. (6 points) The function f is a continuous function, some of whose values are given in the following table.

x	0	1	2	3	4	5	6
$f(x)$	8	6	3	-2	0	1	2

For the function F defined by $F(x) = \displaystyle\int_0^x f(t)e^{-t}\,dt$, what is $F'(2)$?

$F'(2) =$ _____.

3. (6 points) Does the infinite series $\displaystyle\sum_{n=1}^{\infty} ne^{-n^2}$ converge or diverge? (Show your work.)