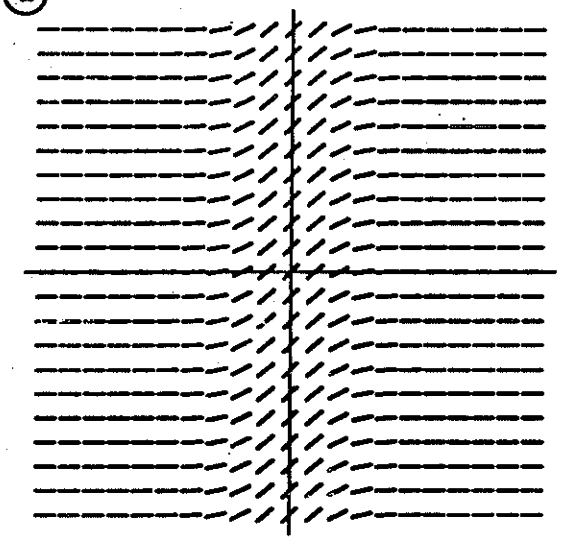
(a) Match the following functions with their slope fields as shown in Figure 6.41.

i. $f(x) = e^{x^2}$ ii. $f(x) = e^{-2x^2}$ iii. $f(x) = e^{-\frac{x^2}{2}}$

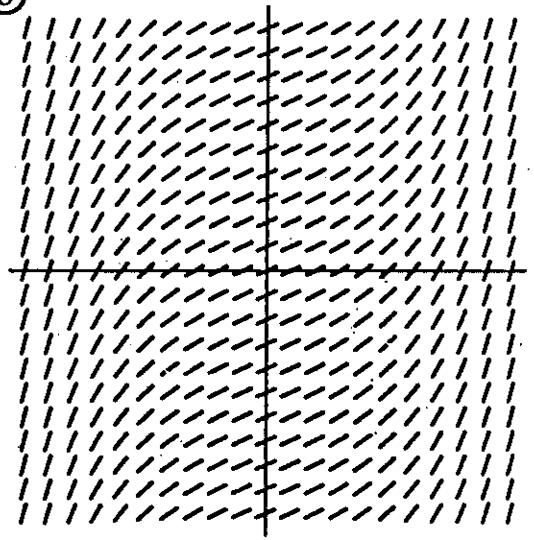
iv. $f(x) = e^{-0.5x}\cos x$ v. $f(x) = \dfrac{1}{(1+0.5\cos x)^2}$ vi. $f(x) = -e^{-x^2}$

(b) On each slope field, sketch the antiderivative, F, with $F(0) = 0$.

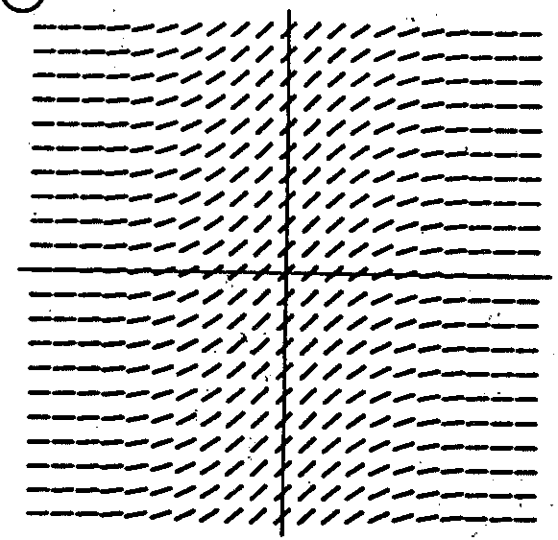
a



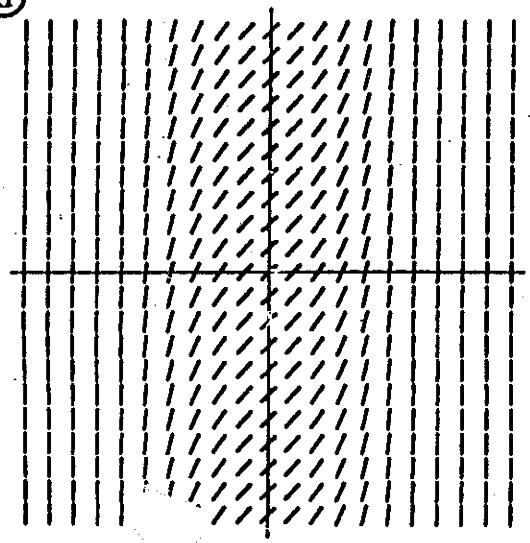
b



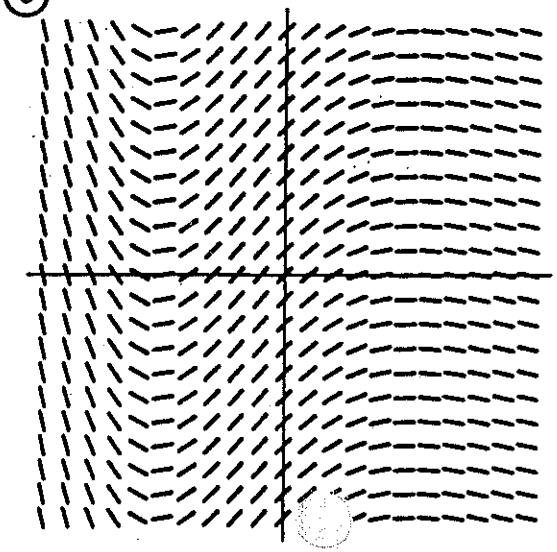
c



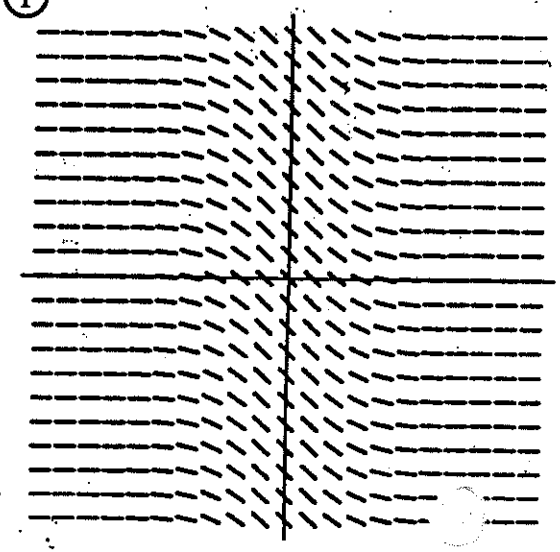
d



e



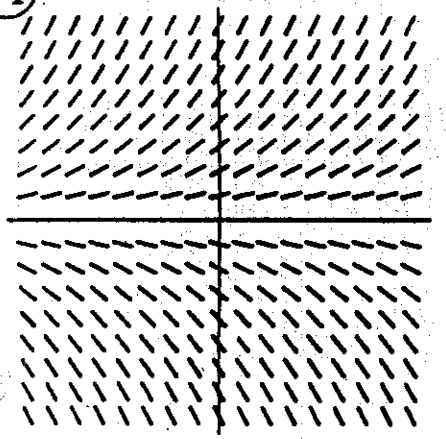
f



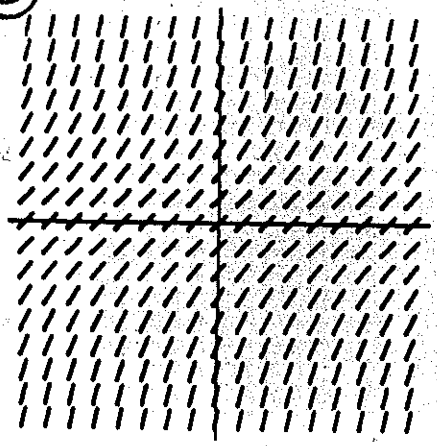
Match the following slope fields with their differential equations:

(a) $y' = 1 + y^2$ (b) $y' = x$ (c) $y' = \sin x$
(d) $y' = y$ (e) $y' = x - y$ (f) $y' = 4 - y$

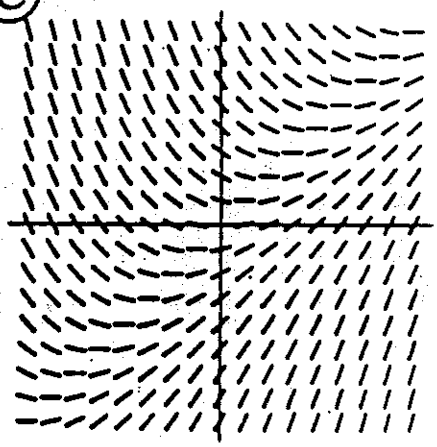
A



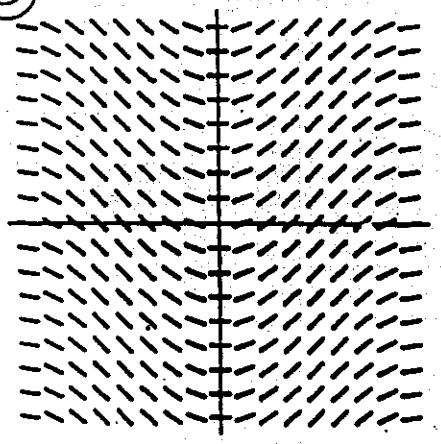
B



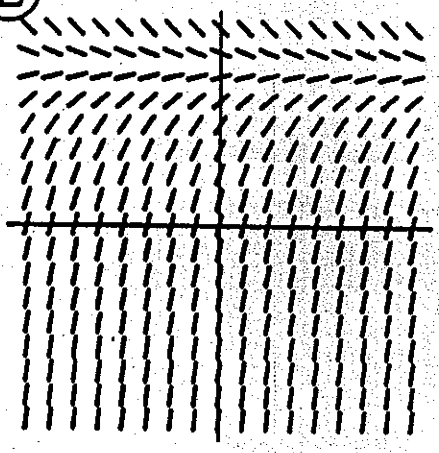
C



D



E



F