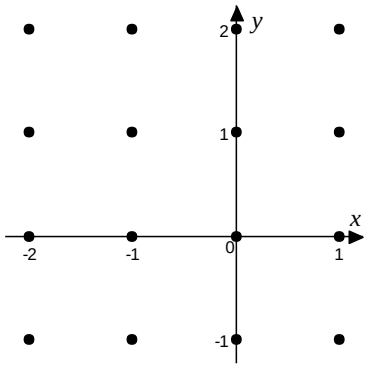
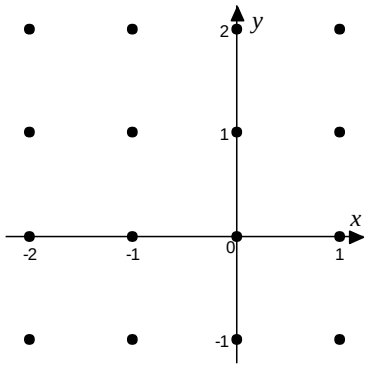
AP CALCULUS AB Name _____
Supplement 6.6 Date _____
Slope Fields Period _____

Draw a slope field for each of the following differential equations using the grids provided.

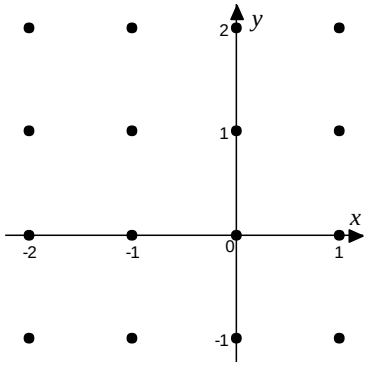
1. $\frac{dy}{dx} = x + 1$



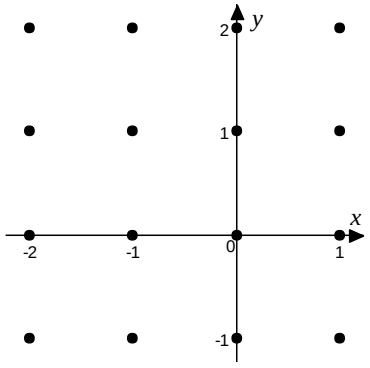
2. $y' = 2y$



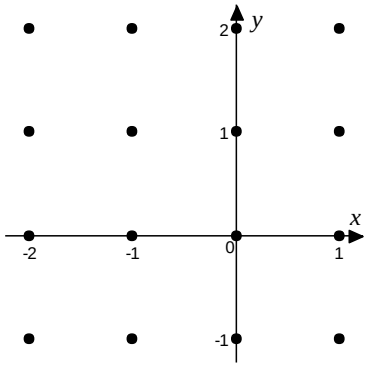
3. $y' = x + y$



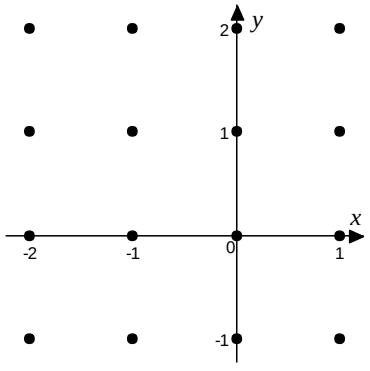
4. $\frac{dy}{dx} = 2x$



5. $\frac{dy}{dx} = y - 1$



6. $\frac{dy}{dx} = -\frac{y}{x}$



Match each slope field with the function that it could represent.

7. $y = 1$

8. $y = x$

9. $y = x^2$

10. $y = \frac{1}{6}x^3$

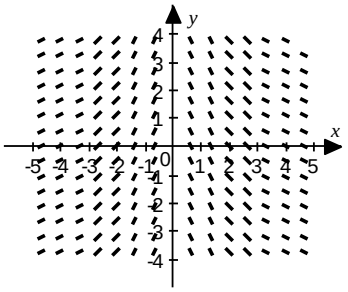
11. $y = \frac{1}{x^2}$

12. $y = \sin x$

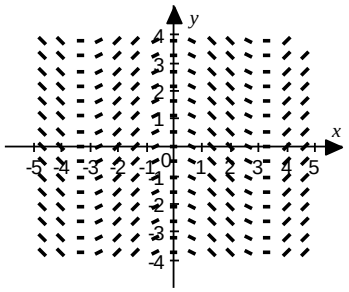
13. $y = \cos x$

14. $y = \ln|x|$

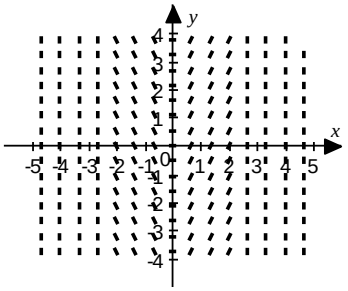
A.



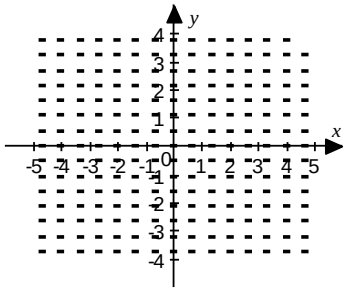
B.



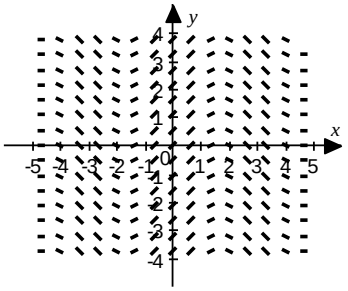
C.



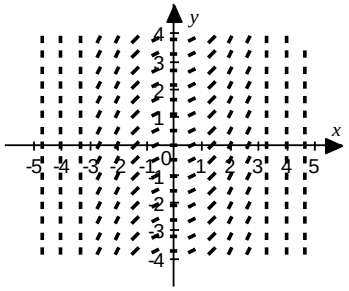
D.



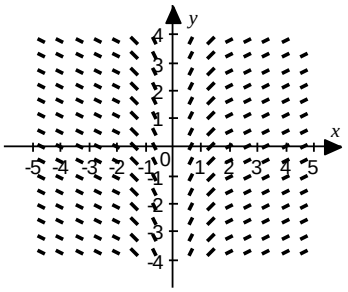
E.



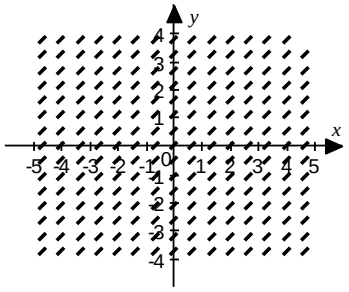
F.



G.



H.



Match each slope field with the appropriate differential equation.

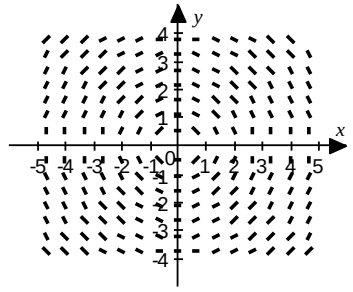
15. $\frac{dy}{dx} = \frac{1}{2}x + 1$

16. $y' = x - y$

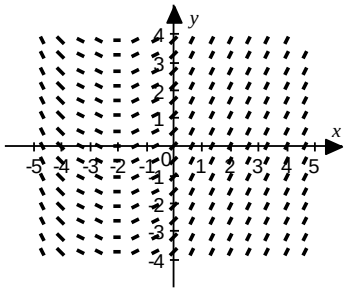
17. $y' = y$

18. $\frac{dy}{dx} = -\frac{x}{y}$

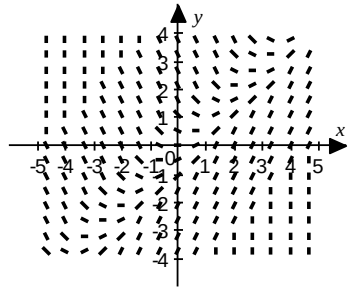
A.



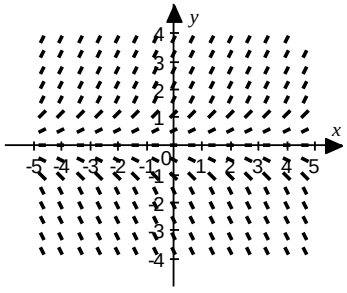
B.



C.



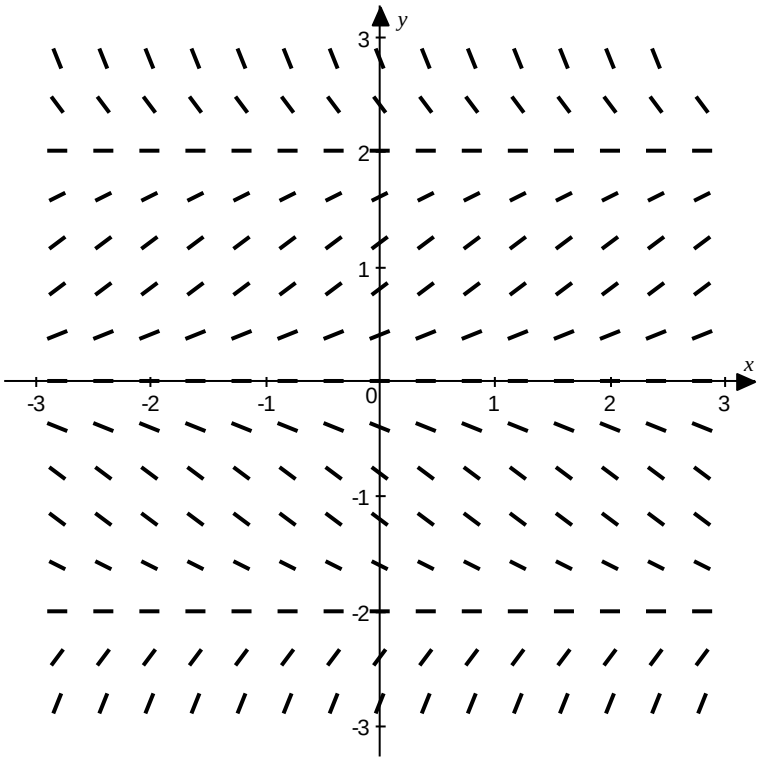
D.



19. The slope field for the differential equation $y' = y\left(1 - \frac{1}{4}y^2\right)$ is given below.

a. Sketch the graphs of the solution curves that satisfy the initial conditions $y(0) = -3$, $y(0) = -1$, $y(0) = 1$, and $y(0) = 3$.

b. Identify all equilibrium solutions for *y*.



20. The slope field for the differential equation $y' = x \sin y$ is given below.

a. Sketch the graphs of the solution curves that satisfy the initial conditions $y(0) = 1$, $y(0) = 2$, $y(0) = \pi$, $y(0) = 4$ and $y(0) = 5$.

b. Identify all equilibrium solutions for *y*.