

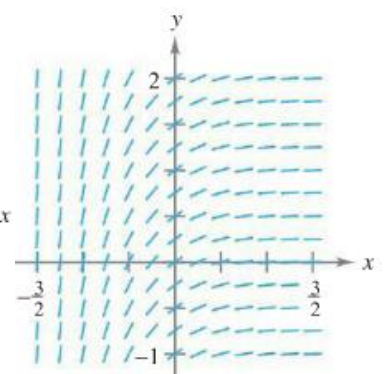
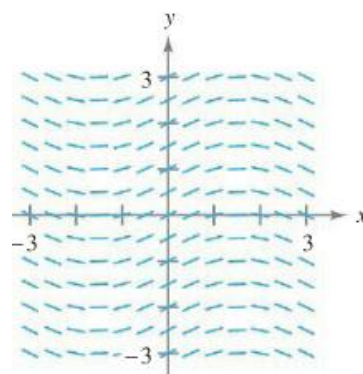
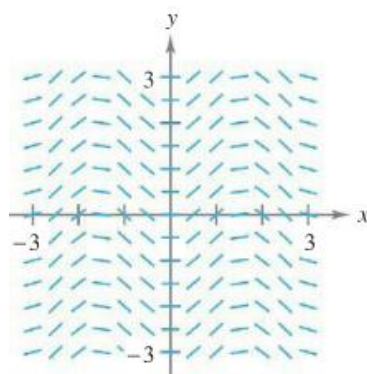
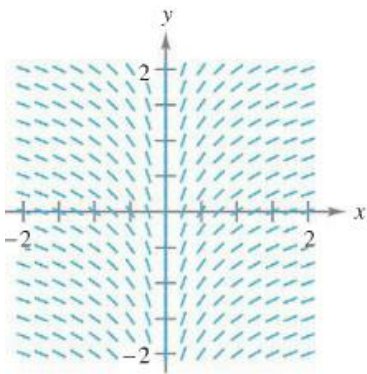
Slope Fields

Name: _____

1) Determine whether the function $y = 3\cos(2x)$ is a solution of the differential equation $y^{(4)} - 16y = 0$.

2) Determine whether the function $y = x^2e^x$ is a solution to the differential equation $xy' - 2y = x^3e^x$.

3) Match the slope fields with the differential equations. Draw a line to connect each pair.



$$\frac{dy}{dx} = \sin(2x)$$

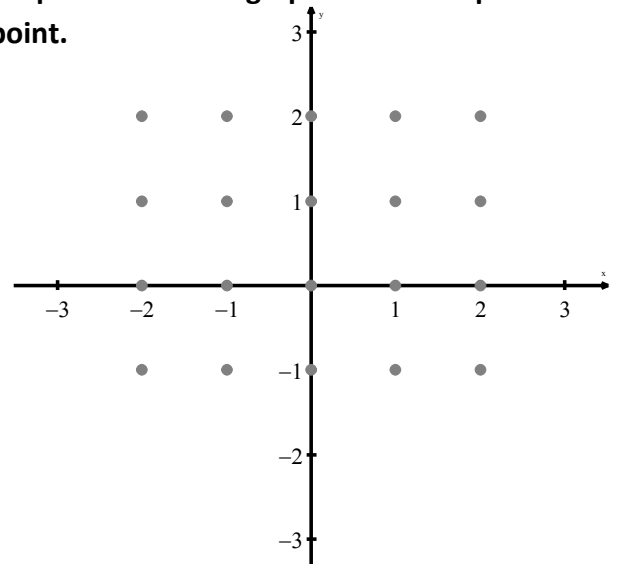
$$\frac{dy}{dx} = \frac{1}{2}\cos x$$

$$\frac{dy}{dx} = e^{-2x}$$

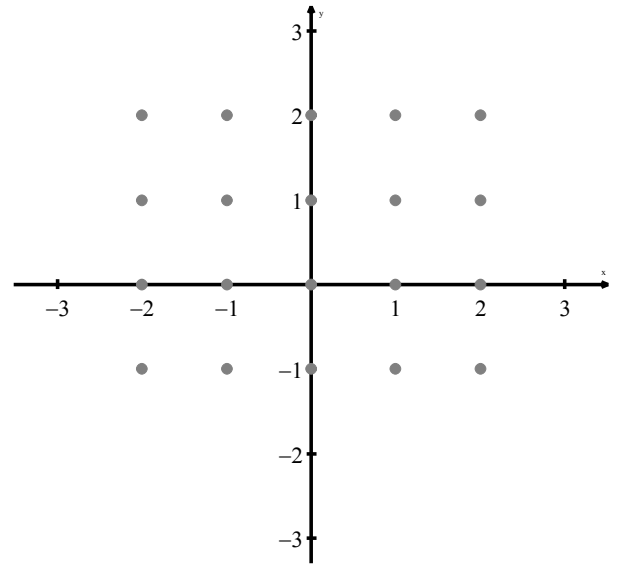
$$\frac{dy}{dx} = \frac{1}{x}$$

Draw the slope field for each differential equation on the points provided in the graph. Draw the particular solution for each differential equation through the indicated point.

5) $y' = 3 - x$; $(0, 1)$



6) $y' = x + y$; $(1, 0)$



7) $y' = xy - y$; $(-1, 1)$

