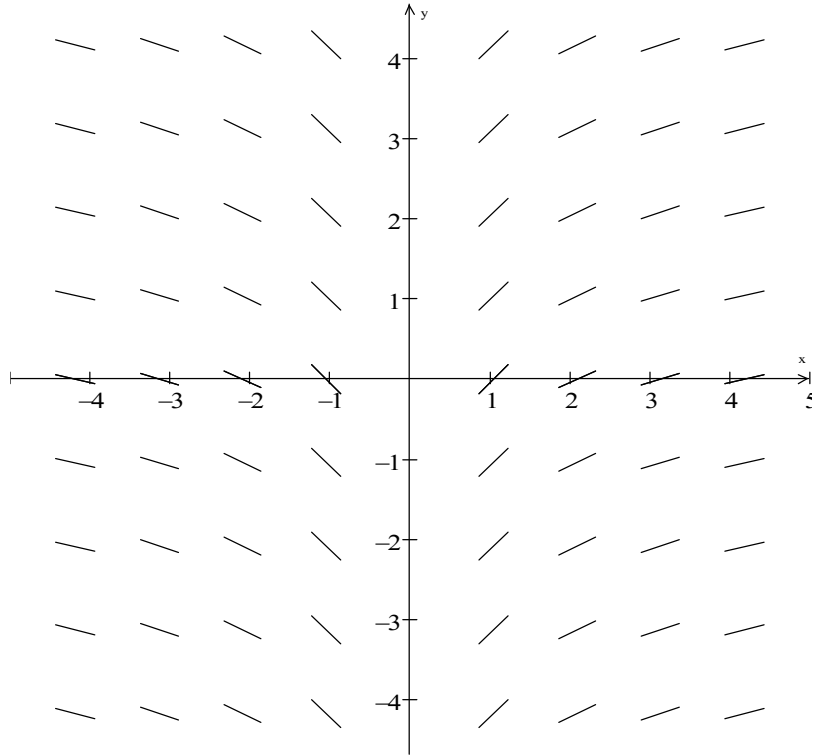


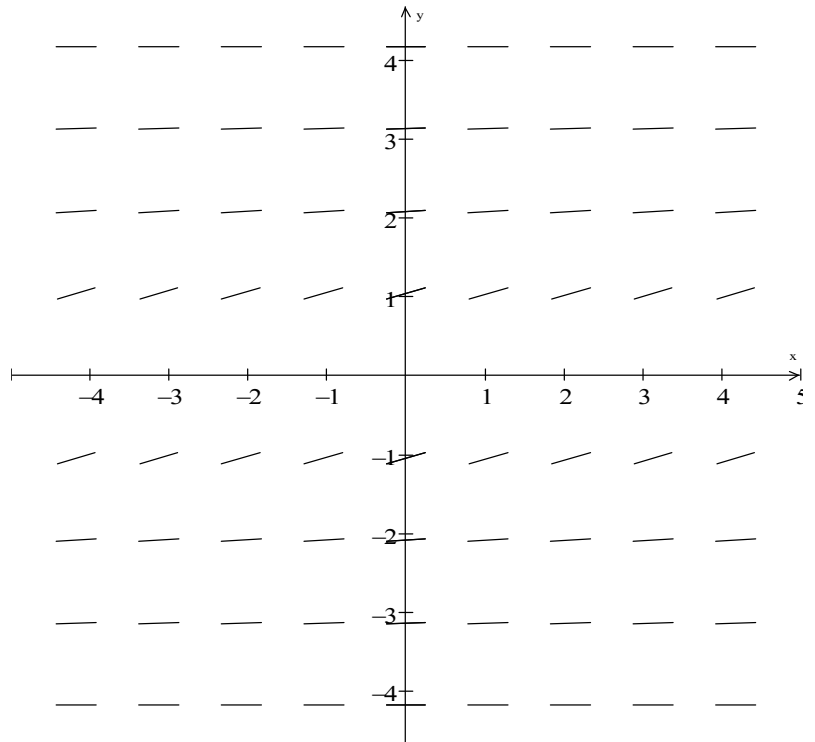
Separable Differential Equations

For each of the given initial value problems, solve the differential equations for y . Then trace the curve on the given slopefield to confirm that the solution fits. State the domain of y in each solution.

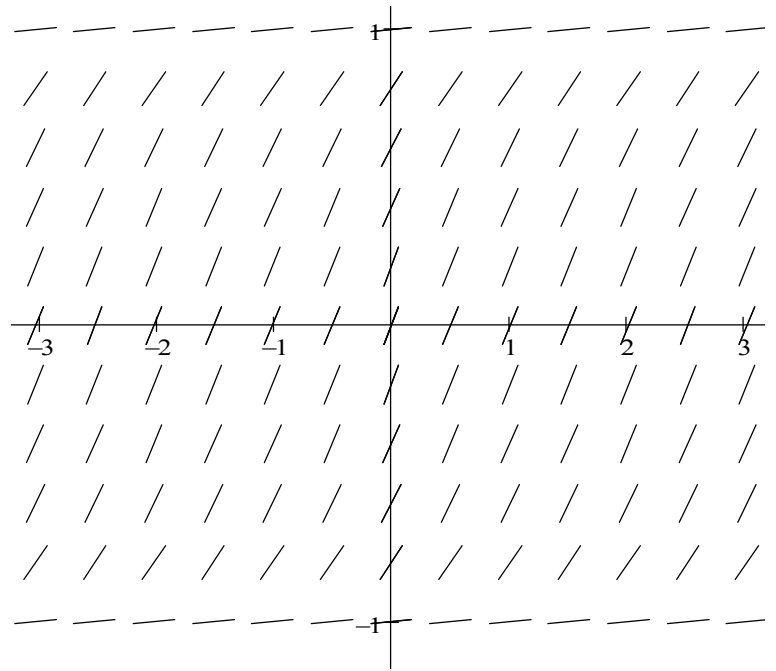
1) $\frac{dy}{dx} = \frac{1}{x}, y(-1) = 2.$



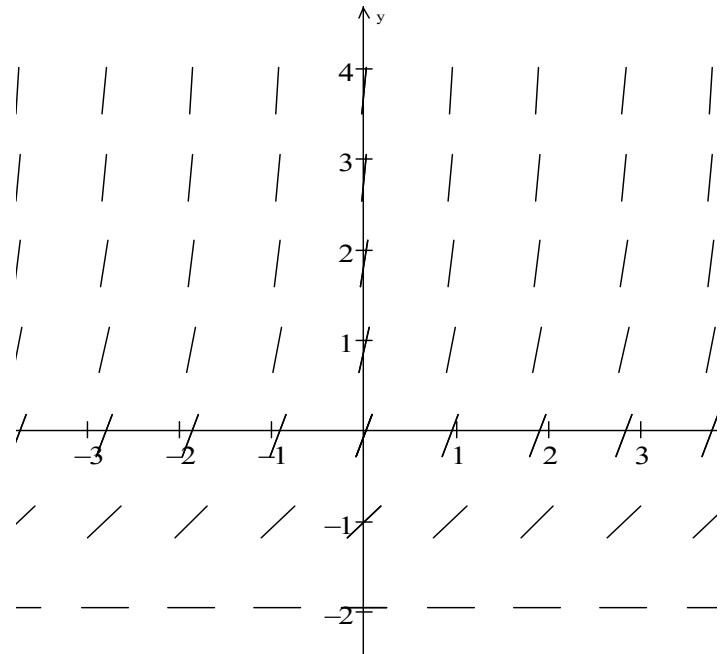
2) $\frac{dy}{dx} = \frac{1}{3}y^{-2}, y(1) = 1.$



3) $\frac{dy}{dx} = \sqrt{1-y^2}$, $y(1) = 0$.



4) $\frac{dy}{dx} = (y+2)^{\frac{3}{2}}$, $y(0) = -1$.



5) $\frac{dy}{dx} = \frac{3x^2}{e^{2y}}, y(0) = \frac{1}{2}$

