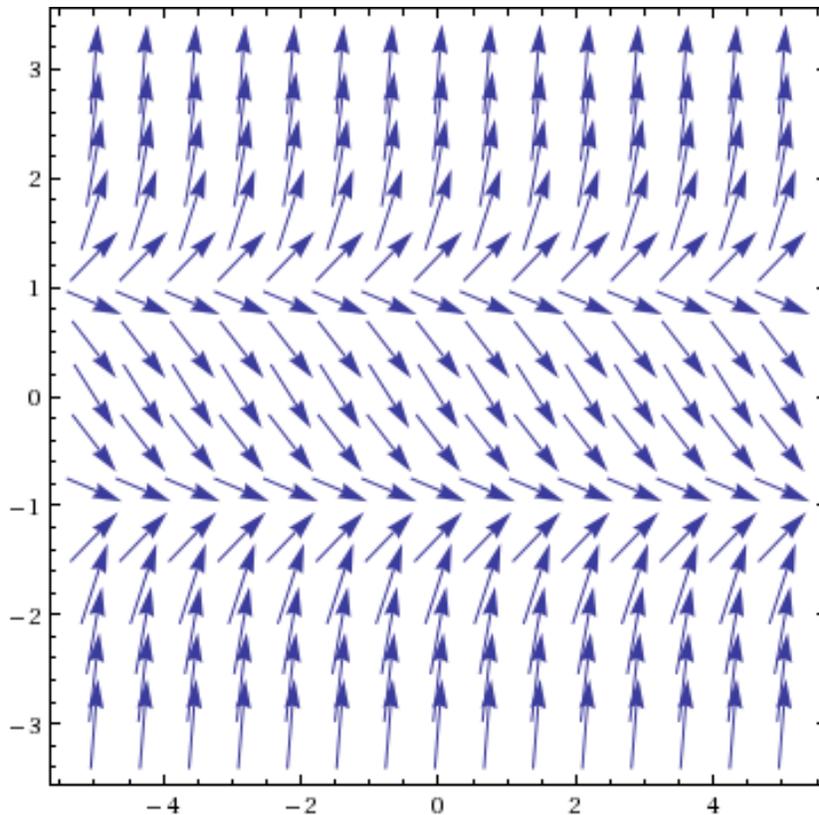


Quiz 1

Feb 5, 2016

[10] 1.) Draw the direction field for $y' = y^2 - 1$



[10] 2.) Solve $\sin(t)y' + y\cos(t) = 5$
(hint: this is a short problem if you are observant).

$$\sin(t)y' + y\cos(t) = 5$$

$$(\sin(t)y)' = 5$$

$$\int (\sin(t)y)' dt = \int 5 dt$$

$$\sin(t)y = 5t + C$$

$$y = \frac{5t+C}{\sin(t)}$$

Answer: $y = \frac{5t+C}{\sin(t)}$