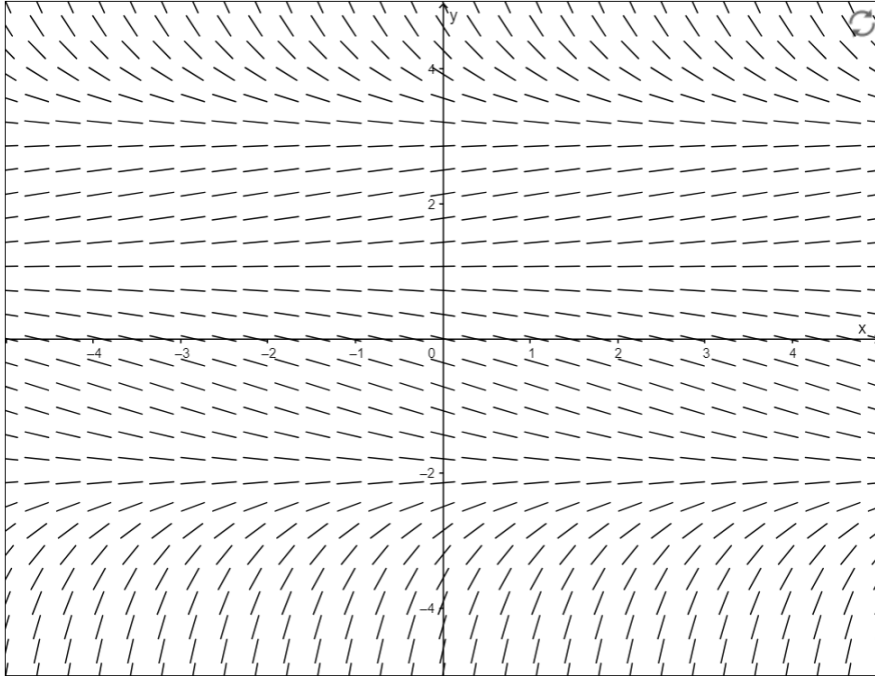


**Instructions:** Show all work. Use exact answers unless otherwise asked to round.

1. Given the autonomous direction field shown below, write a differential equation to model it.



2. Use technology to graph the direction field for  $\frac{dy}{dx} = -\sqrt[3]{y} \sin(x + y)$ . On the direction field you produce, draw three trajectories through the field.