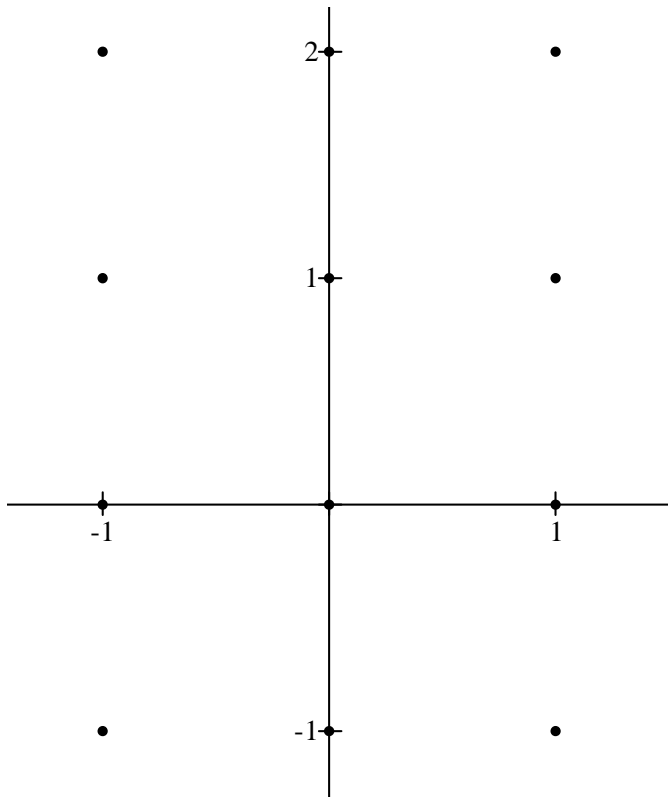


**Slope Field Worksheet 3**

Name \_\_\_\_\_

1) Consider the differential equation  $\frac{dy}{dx} = \frac{xy}{2}$

a) On the axes below, sketch the slope field for the given differential equation at the twelve points indicated.

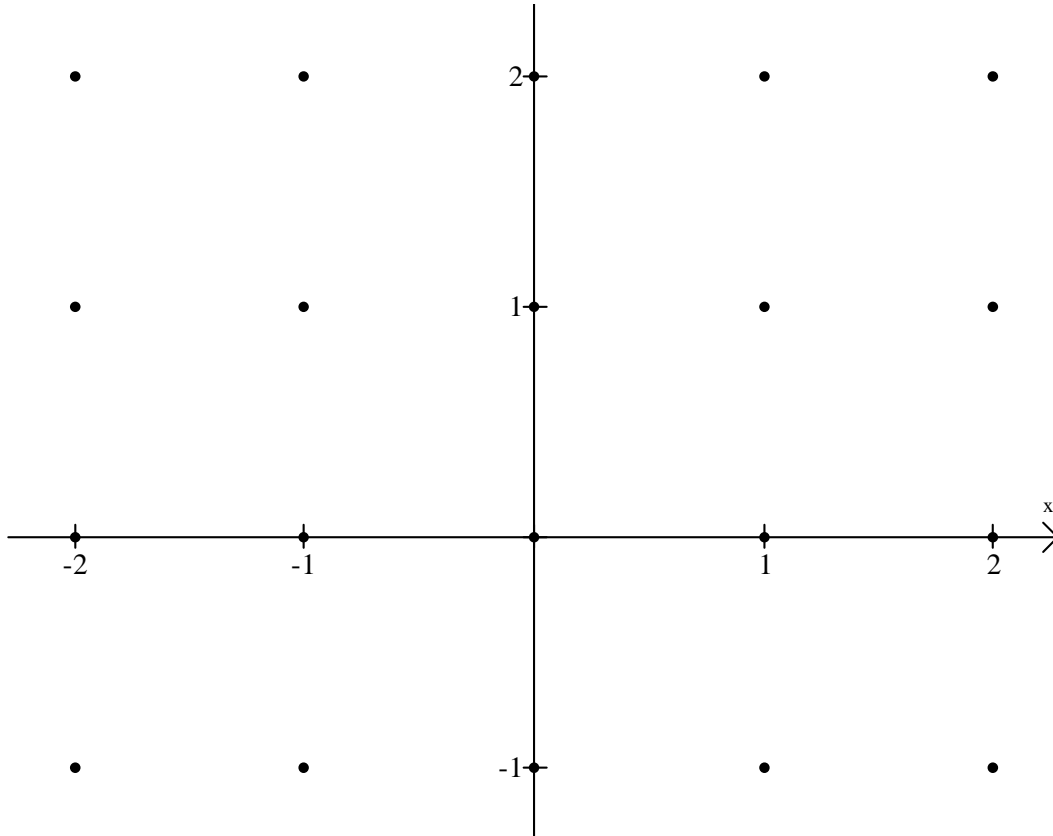


b) Describe all points in the  $xy$ -plane for which the slopes are positive.

c) Find the particular solution  $y = f(x)$  to the given differential equation with the initial condition  $f(0) = 3$ .

2) Consider the differential equation  $\frac{dy}{dx} = x^2(y-1)$

a) On the axes below, sketch the slope field for the given differential equation at the twenty points indicated.



b) Sketch an approximate graph of  $y$  with an initial point of  $(0, 1)$ .

c) Sketch an approximate graph of  $y$  with an initial point of  $(0, -1)$ .

d) Find the particular solution  $y = f(x)$  to the given differential equation with the initial condition  $f(0) = 3$ .