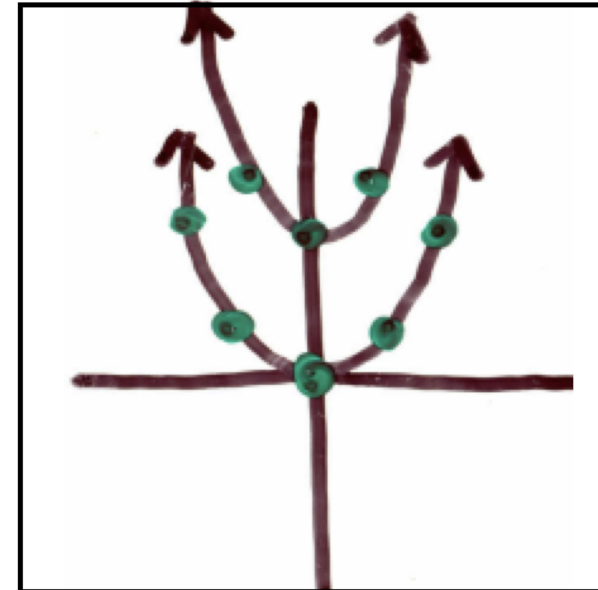
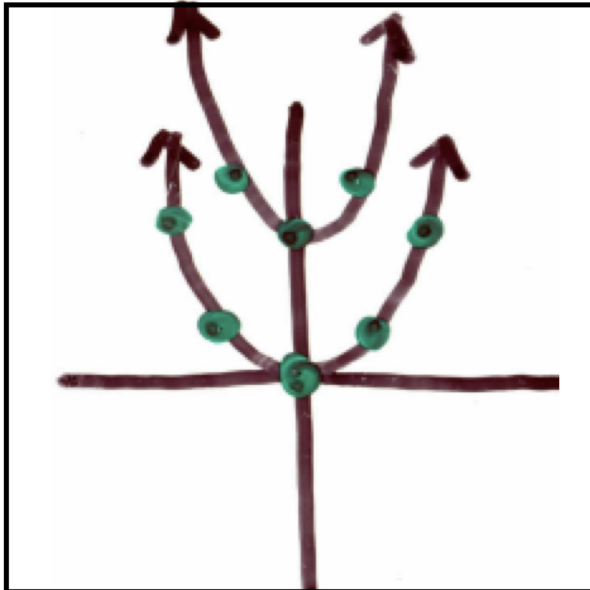


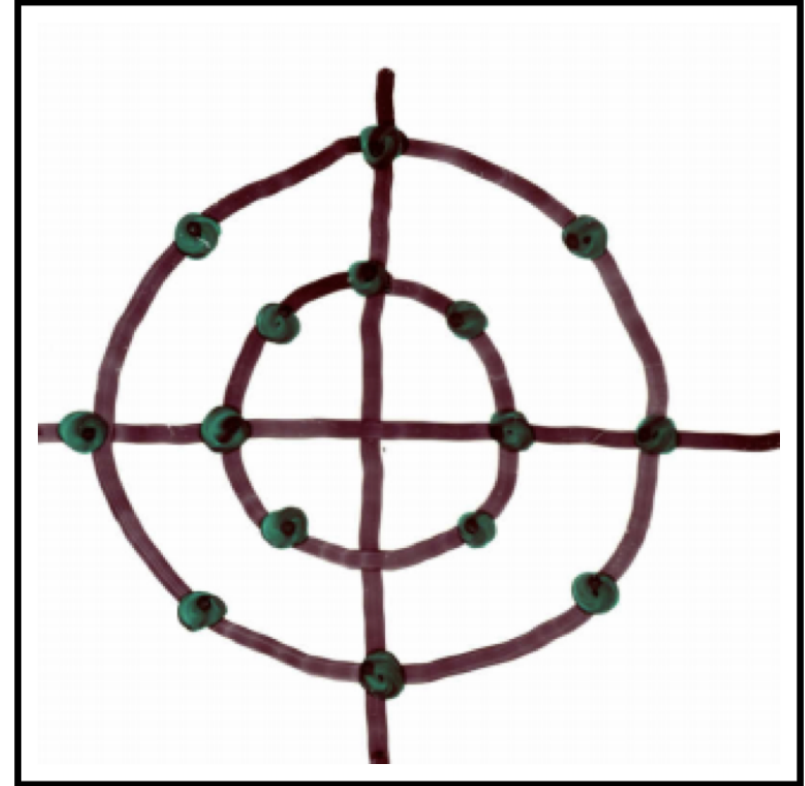
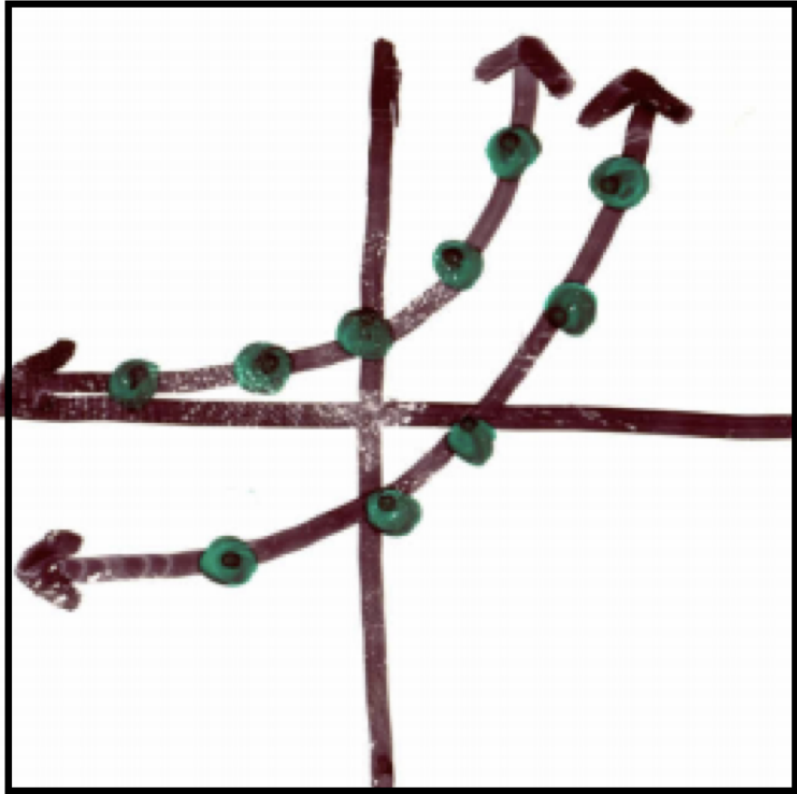
# What information does a slope field provide about the solution of a differential equation?

## Quick Check

Draw tangent lines at the indicated points on the following graphs.




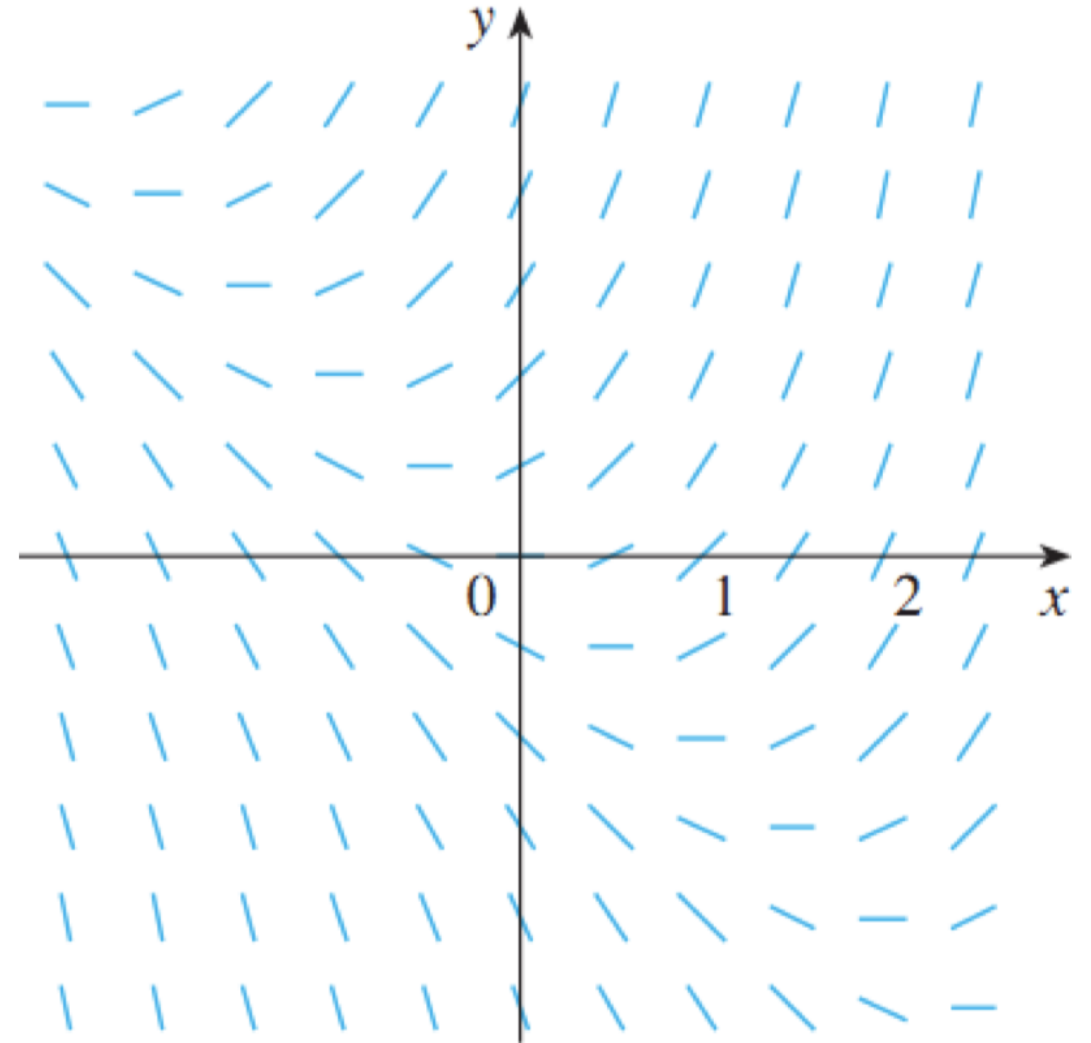
Continue drawing tangents.



# Slope Field

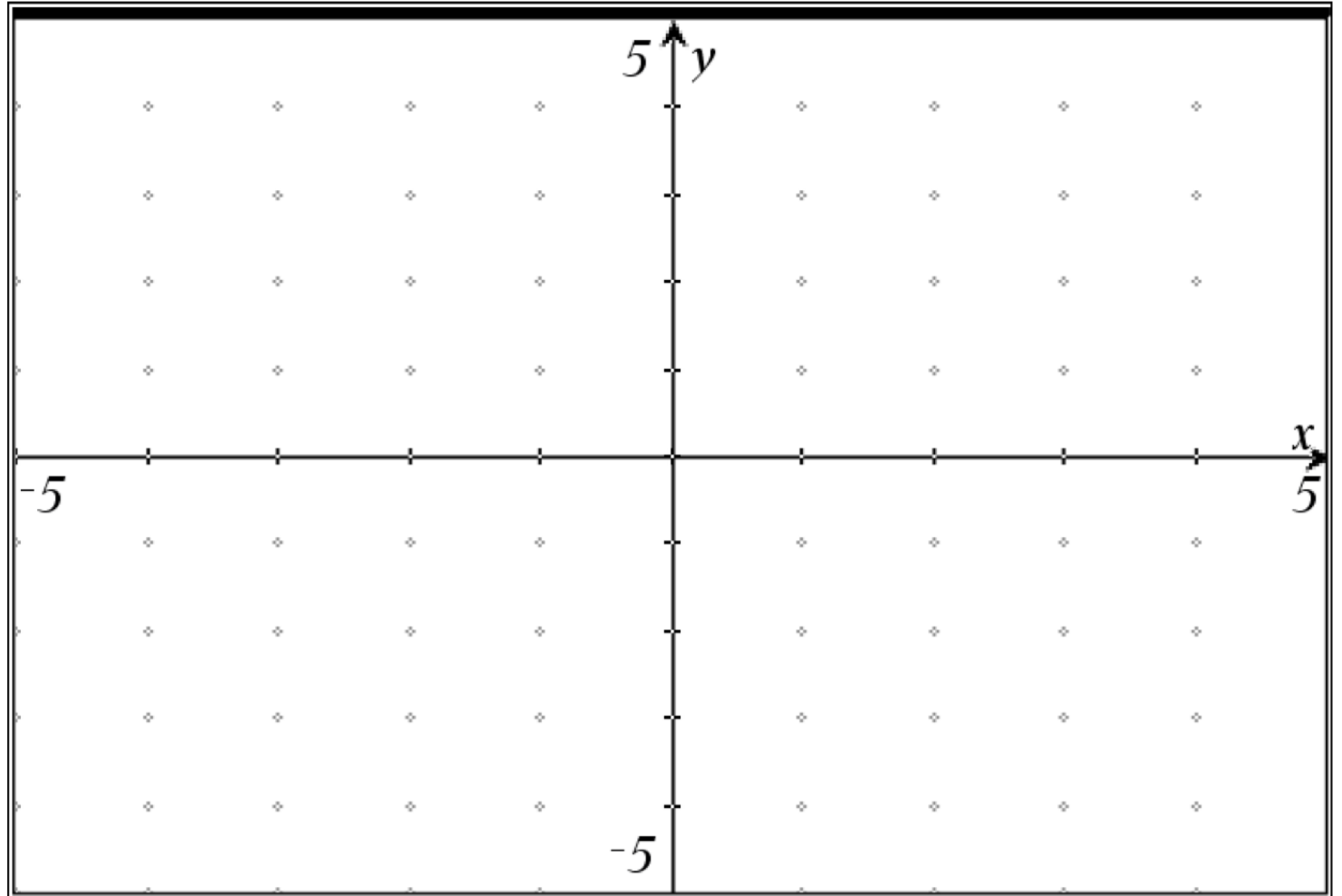
These line segments indicate the direction in which a solution curve is heading. Slope field, also known as direction field, helps us visualize the general shape of solution curves.

 Use desmos to view the slope field for  $y' = x + y$



# Sketching a Slope Field

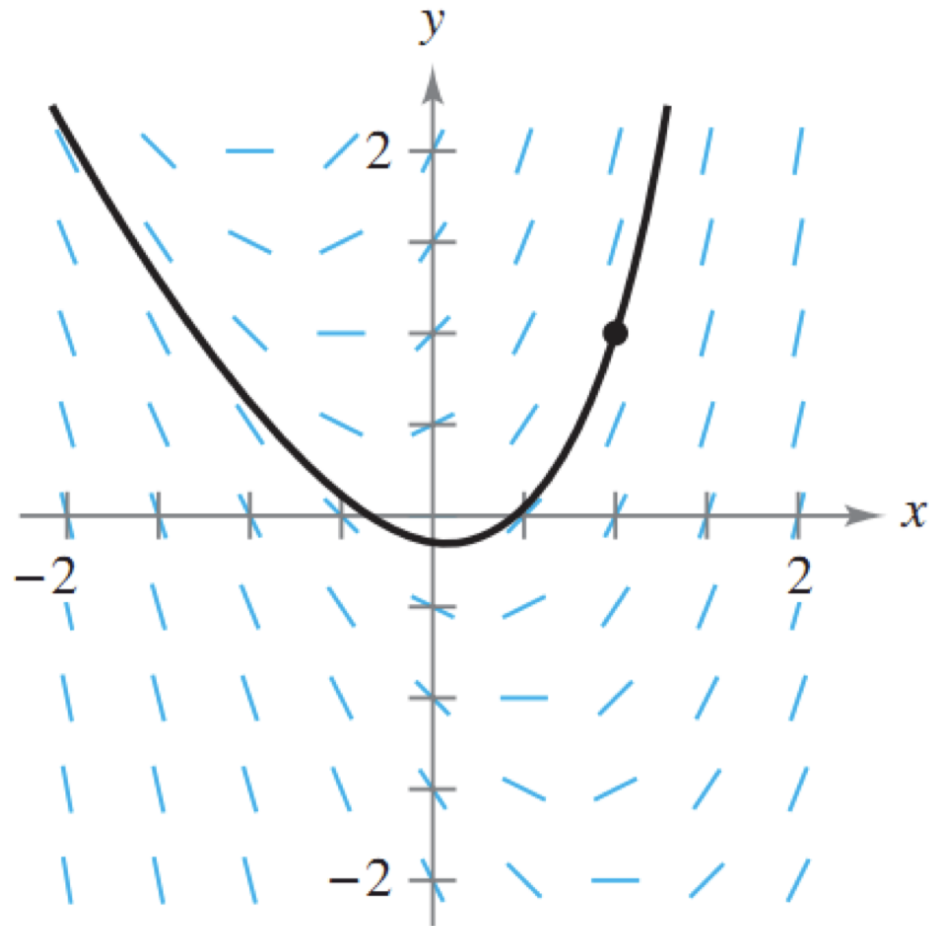
Sketch a slope field for the differential equation  $y' = x - y$  for the points  $(-1, 1)$ ,  $(0, 1)$ , and  $(1, 1)$ .



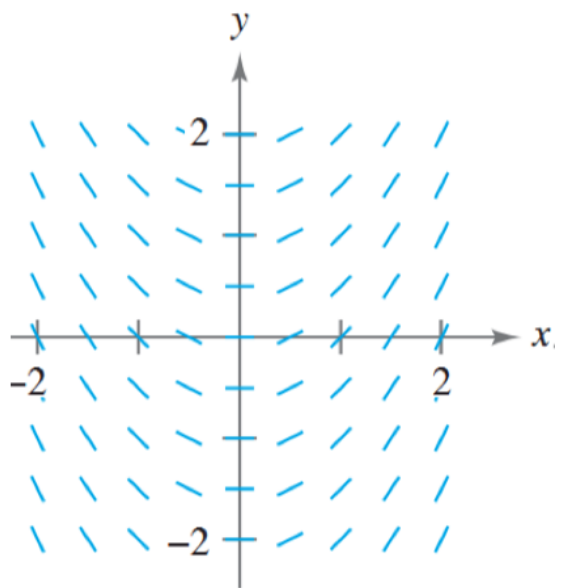
## Sketching a Particular Solution

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Particular solution for  $y' = 2x + y$  passing through  $(1, 1)$ .

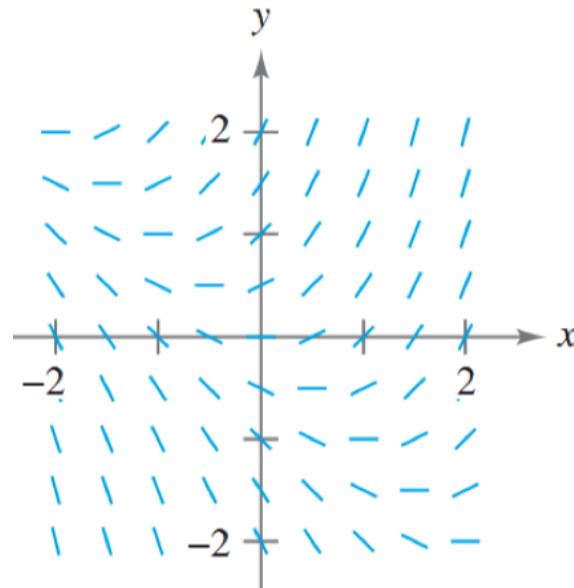


# Match each slope field with its differential equation



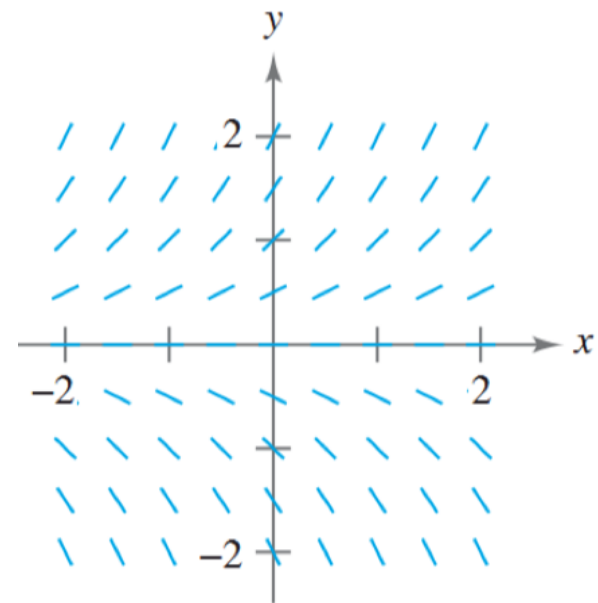
a.

**1**  $y' = x + y$



b.

**2**  $y' = x$



c.

**3**  $y' = y$

Continue practice on handout.