

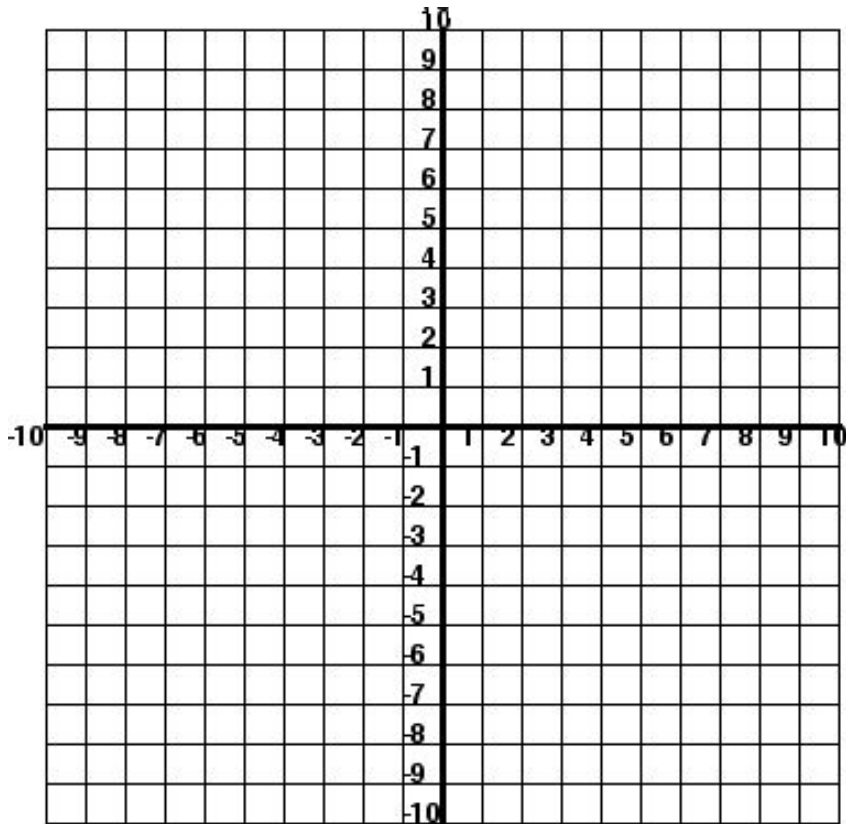
Module 7 Lesson 5

Try This 1 - 7

Print and complete the following.

- TT 1. a.** In what ways can two lines be oriented relative to each other on a coordinate plane?
- b.** Will you always have one point of intersection when you draw a pair of lines on a sheet of graph paper?

TT 2. Use the graph paper to represent each way for a pair of lines to be oriented.



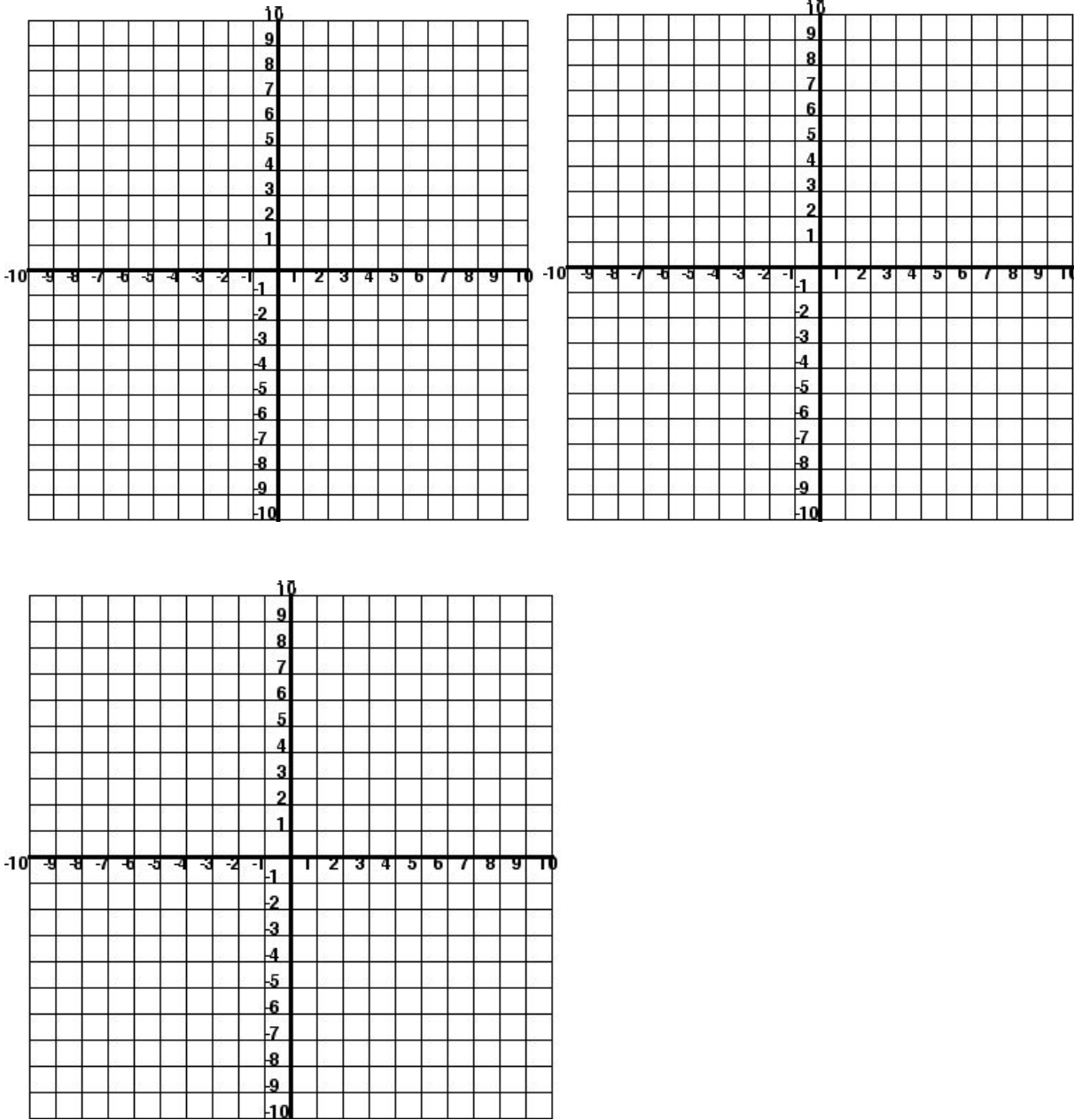
Next, you will create several systems of equations. You will then graph each system to determine the number of solutions of the system. You will then analyze the relationship between the format of the equations in the system and the number of solutions.

TT 3. In each system, one of the equations will be $2x + y = 3$. Complete the table that follows by writing the second equation for each system according to the following conditions:

- **System A:** Choose a non-zero number. Multiply each term of Equation 1 by this number.
- **System B:** Choose two non-zero numbers. Multiply the left side of Equation 1 by one of these numbers. Multiply the right side of Equation 1 by the other number.
- **System C:** Choose two non-zero numbers. On the left side of Equation 1, multiply the x-term by one of these numbers and the y-term by the other one.

	System A	System B	System C
Equation 1	$2x + y = 3$	$2x + y = 3$	$2x + y = 3$
Equation 2			

TT 4. Graph each system separately on a grid below. Determine the number of solutions in each case.



TT 5. Compare the slopes and the y -intercepts of the graphs of each system. Based on the graphs, complete this table by stating whether the slopes are the same or different. Also, use a word to describe how the graphs are oriented relative to each other.

	System A	System B	System C
Slopes			
y -intercepts			
Description of the Lines' Orientation			

TT 6.

a. Indicate the number of solutions in each of Systems A, B, and C.

	System A	System B	System C
Number of Solutions			

b. Describe how you can identify the number of solutions of a system by looking at its graph.

TT 7. Describe how you can identify the number of solutions of a system by looking at its equations.