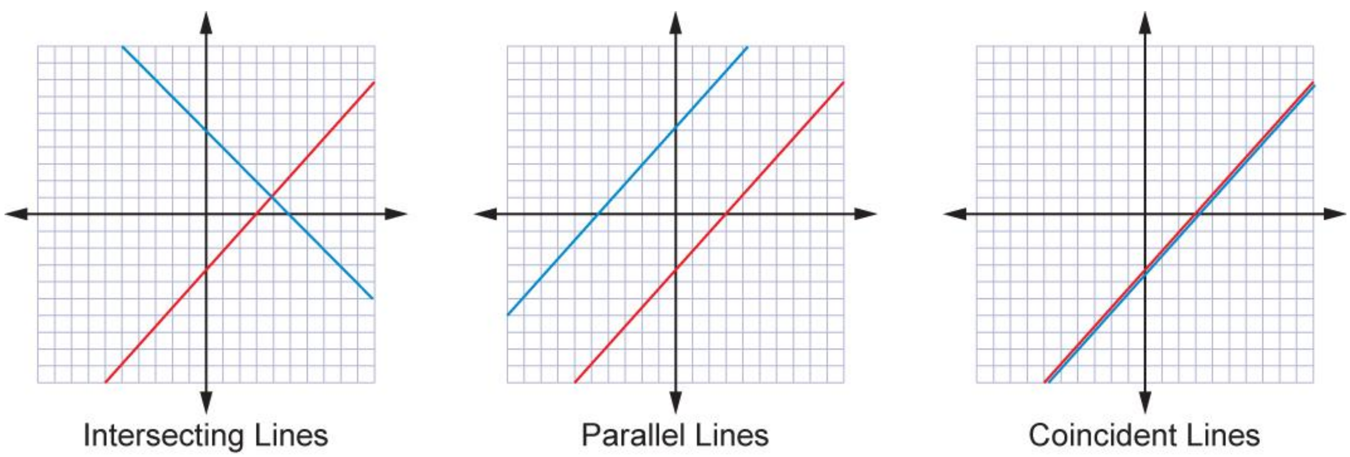
Module 7 Lesson 5
Try This 1 – 7 **Possible Solutions**

TT 1.a. The lines may be oriented in three general ways:

- They intersect each other so they have one point in common.
- They do not intersect at all, so they are parallel to each other and have no points in common.
- They coincide completely having an infinite number of points in common.

b. Lines drawn on graph paper may not intersect, like $y = 2x$ and $y = 2x + 1$, or they may coincide (infinite number of intersection points), like $y = x$ and $2y = 2x$.

TT 2. The graphs should look as follows. The first graph shows two intersecting lines. The second graph shows two parallel lines. The third graph shows two coincident lines.



TT 3. Answers will vary depending on the numbers by which Equation 1 or parts of this equation are multiplied. A sample answer is provided with the following chosen numbers:

- **System A:** 3
- **System B:** 2, 1
- **System C:** 2, 3

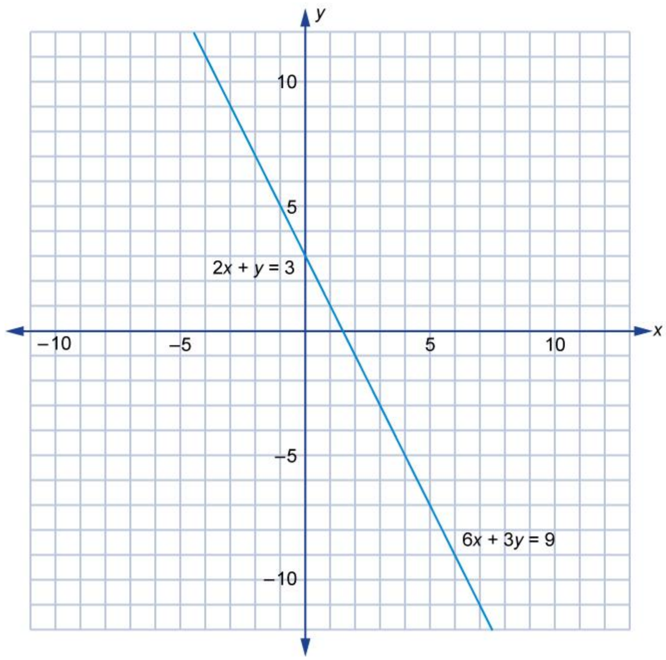
	System A	System B	System C
Equation 1	$2x + y = 3$	$2x + y = 3$	$2x + y = 3$
Equation 2	$6x + 3y = 9$	$4x + 2y = 3$	$4x + 3y = 3$

TT 4. The student is required to graph all three systems.

System A

$2x + y = 3$ ← Equation 1

$6x + 3y = 9$ ← Equation 2

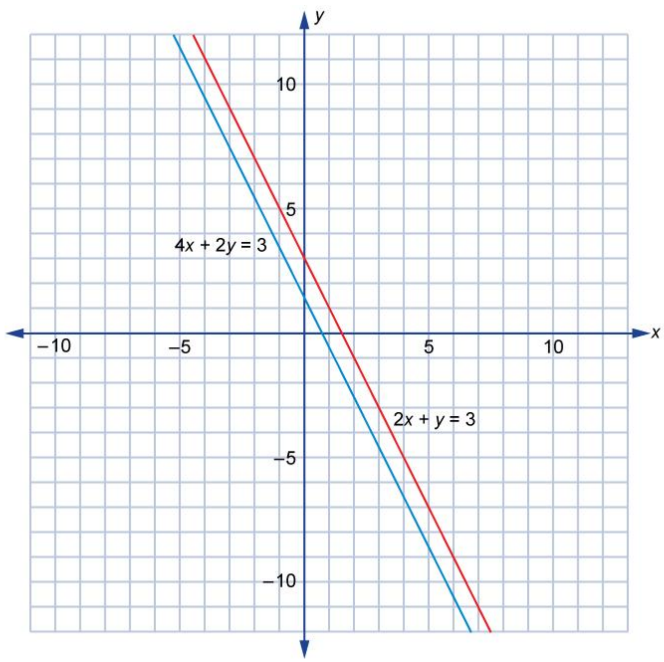


There are an infinite number of solutions since the lines for the equations coincide.

System B

$2x + y = 3$ ← Equation 1

$4x + 2y = 3$ ← Equation 2

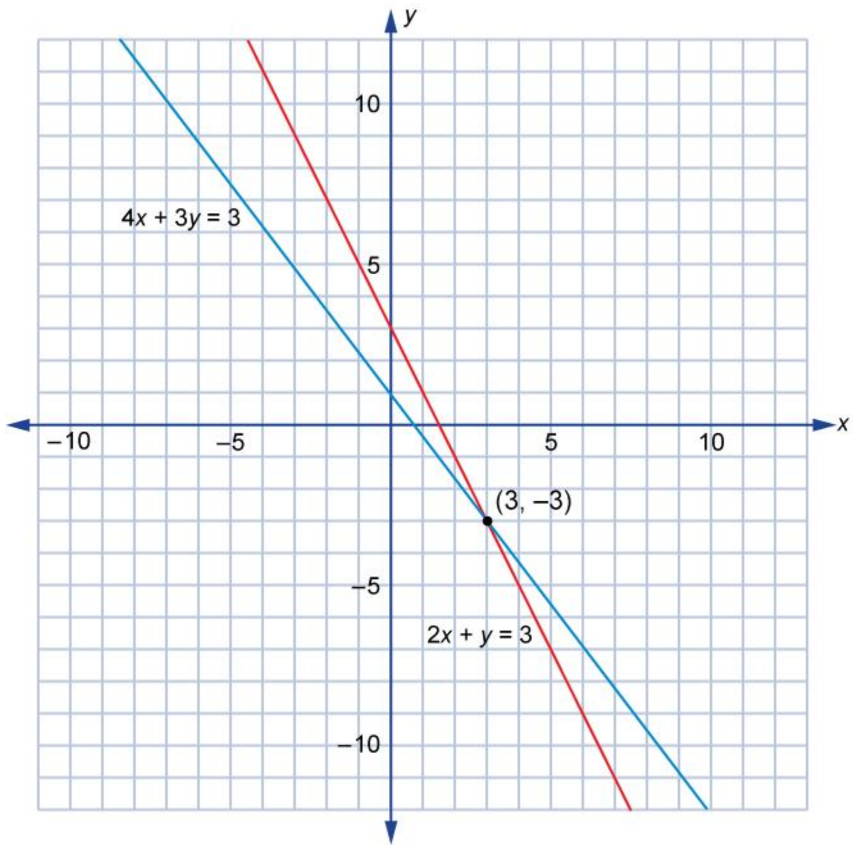


There is no solution since the lines for these equations do not intersect.

System C

$2x + y = 3$ ← Equation 1

$4x + 3y = 3$ ← Equation 2



There is one solution to this system of equations, which is represented as the point of intersection,

$(3, -3)$, of the two lines in the graph.

TT 5. The chart should look like the following.

	System A	System B	System C
Slopes	same	same	different
***y*-intercepts**	same	different	different
Description of the Lines' Orientation	coincide	parallel	intersecting

TT 6.a. The following is correct.

	System A	System B	System C
Number of Solutions	infinite number	none, zero	one

TT 7. The number of solutions can be determined by writing the equations in the slope-intercept form
($y = mx + b$) and comparing the slopes and *y*-intercepts.

- If two lines have the same slope and the same *y*-intercept, they are coincident lines and will have an infinite number of solutions.
- If two equations have the same slope but different *y*-intercepts, they are parallel and will have no solutions.
- If two lines have a different slope, they will cross once (does not matter where their y-intercepts are); so, these lines will have one solution.