Readiness Assurance Outcomes

Before beginning this module, each student should be able to...

- Determine if a system to a two-variable system of linear equations will have zero, one, or infinitely-many solutions by graphing.
- Find the unique solution to a two-variable system of linear equations by back-substitution.

Readiness Assurance Resources

The following resources will help you prepare for this module.

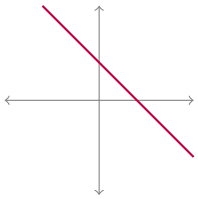
- https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-systems-topic/cc-8th-systems-graphica
  a/systems-of-equations-with-graphing
- https://www.khanacademy.org/math/algebra/systems-of-linear-equations/solving-systems-of-equations-
  v/practice-using-substitution-for-systems

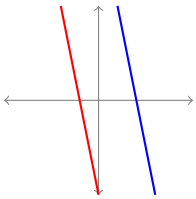
Readiness Assurance Test

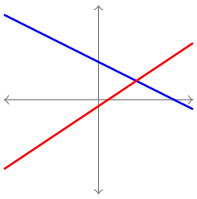
Choose the most appropriate response for each question.

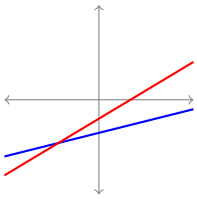
1) Which of these graphs represents the following system of linear equations?

$$x + 2y = 4$$
$$2x - 3y = 1$$

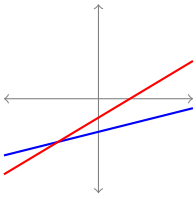
(a) 

(b) 

(c) 

(d) 

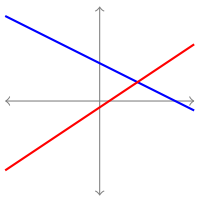
2) How many solutions are there for the system of linear equations represented by the following graph?

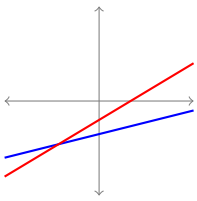


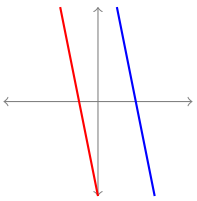
(a) One (b) Two (c) Zero (d) Infinitely-many

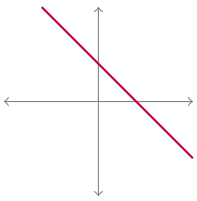
3) Which of these graphs represents the following system of linear equations?

$$3x + 3y = 6$$
$$x + y = 2$$

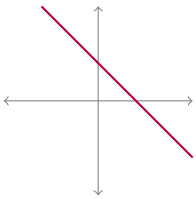
(a) 

(b) 

(c) 

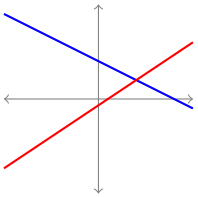
(d) 

4) How many solutions are there for the system of linear equations represented by the following graph? (This graph represents two completely overlapping lines.)



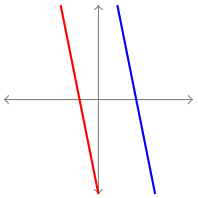
(a) Zero (b) One (c) Two (d) Infinitely-many

5) How many solutions are there for the system of linear equations represented by the following graph?



(a) Zero (b) One (c) Two (d) Infinitely-many

6) How many solutions are there for the system of linear equations represented by the following graph? (This graph represents two non-overlapping parallel lines.)



(a) Zero (b) One (c) Two (d) Infinitely-many

7) Solve the following system of linear equations.

$$y = 2x + 5$$
$$y = -x + 2$$

(a) $(x, y) = (-1, 3)$ (b) $(x, y) = (4, -2)$ (c) There are no solutions. (d) There are infinitely-many solutions.

8) Solve the following system of linear equations.

$$y = 3x + 5$$
$$y = 3x + 2$$

(a) $(x, y) = (3, 4)$ (b) $(x, y) = (-5, 1)$ (c) There are no solutions. (d) There are infinitely-many solutions.

9) Solve the following system of linear equations.

$$x + 2y = 4$$
$$2x - 3y = 1$$

(a) There are no solutions.
(b) There are infinitely-many solutions.
(c) $(x, y) = (-1, 4)$
(d) $(x, y) = (2, 1)$

10) Solve the following system of linear equations.

$$\begin{aligned} 4x - 8y &= 12 \\ -6x + 12y &= 18 \end{aligned}$$

(a) There are no solutions.
(b) There are infinitely-many solutions.
(c) $(x, y) = (3, 3)$
(d) $(x, y) = (-2, 1)$