

Readiness Assurance Test

Choose the most appropriate response for each question.

1) Which of the following describe the set of all points on the line $2x + 3y = 0$?

- (a) $\{(x, y)\}$ (b) $\{(2x, 3y)\}$ (c) $\{(x, y) \mid 2x + 3y = 0\}$ (d) $\{(2x, 3y) \mid 2x + 3y = 0\}$

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 the following points is an element of the set $\{(x, y) \mid 3x + 4y = 12\}$?

- (a) $(1, 1)$ (b) $(3, 4)$ (c) $(4, -3)$ (d) $(8, -3)$

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



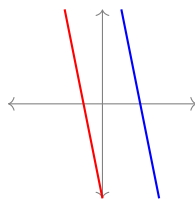
- (a) Zero (b) One (c) Two (d) Infinitely-many

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.

$$\begin{aligned} y &= 2x + 5 \\ y &= -x + 2 \end{aligned}$$

- (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.

$$\begin{aligned} y &= 3x + 5 \\ y &= 3x + 2 \end{aligned}$$

- (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.

$$\begin{aligned} x + 2y &= 4 \\ 2x - 3y &= 1 \end{aligned}$$

- (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) $(x, y) = (-2, 1)$