

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) $\{(x, y) \mid 2x + 3y = 0\}$ (c) $\{(2x, 3y)\}$ (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) Zero (b) Two (c) Infinitely-many (d) One

- 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.)



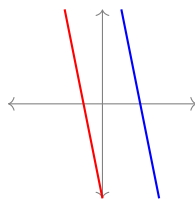
(a) Infinitely-many (b) One (c) Two (d) Zero

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

7) Solve the following system of linear equations.

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

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

8) Solve the following system of linear equations.

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

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

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