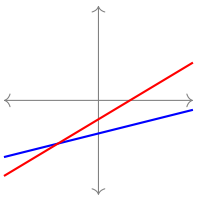
Readiness Assurance Test

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?

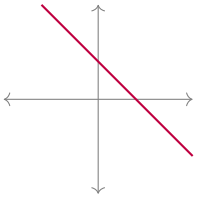


(a) One (b) Two (c) Zero (d) Infinitely-many

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

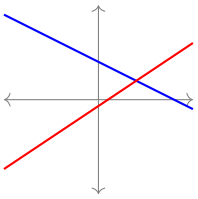
(a) $(1, 1)$ (b) $(3, 4)$ (c) $(4, -3)$ (d) $(8, -3)$

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



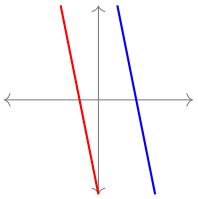
(a) Zero (b) One (c) Two (d) Infinitely-many

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.

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

(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.

$$4x - 8y = 12$$
$$-6x + 12y = -18$$

(a) There are no solutions.

(b) There are infinitely-many solutions.

(c) $(x, y) = (3, 3)$

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