Name Answers Date

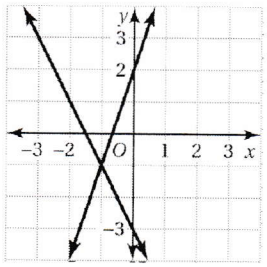
Systems of Linear Equations Review

Match the system of linear equations with the corresponding graph. Use the graph to estimate the solution. Check your solution.

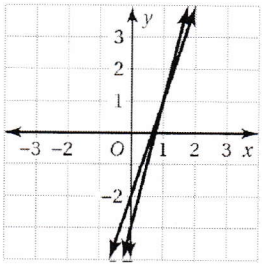
1) $y = 3x - 2$
$y = 4x - 3$ B; (1, 1)

2) $y = -2x - 3$
$y = 3x + 2$ A; (-1, -1)

A)

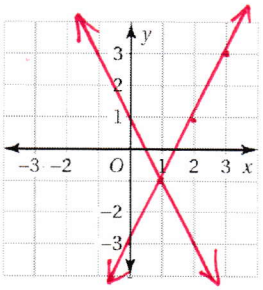


B)



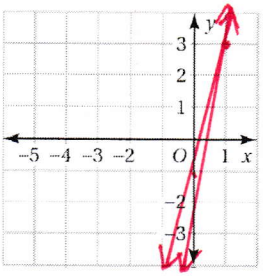
Solve the system of linear equations by graphing.

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



(1, -1)

4) $y = 6x - 3$
$y = 4x - 1$



(1, 3)

Solve the system of linear equations by substitution. Check your solution.

5) $y = x + 2$
$y = 3x - 4$ (3, 5)

6) $y = 3x + 4$
$x + y = 8$ (1, 7)

7) There are 27 red or blue marbles in a bag. The number of red marbles is 5 less than 3 times the number of blue marbles. How many red marbles are in the bag? How many blue marbles are in the bag?

19 red marbles
8 blue marbles

8) A fruit vendor sells 60 pieces of fruit that are either apples or oranges. The ratio of apples to oranges is 3 : 2. How many apples did the vendor sell? How many oranges did the vendor sell?

36 apples
24 oranges

Solve the system of linear equations by elimination. Check your solution.

9) $2x + 10y = -20$
$-x + 4y = 28$

(-20, 2)

10) $-x + 5y = 20$
$12y = 2x + 60$

(30, 10)

Without graphing, determine whether the system of linear equations has *one solution*, *infinitely many solutions*, or *no solution*. Explain your reasoning.

11) $y = 4x + 6$
$2y = 8x + 12$

Infinitely many sol.
The two equations are equivalent.
(they are the same line)

12) $y = 3x + 5$
$y = 3x - 5$

No solution.
The lines are parallel. There is no intersection.

13) $y = 2x + 7$
$y = 3x - 1$

One solution.
They will intersect because they have different slopes and are not parallel.

14) What is the solution to the equation below?

$$-2x - 4 = -16$$

A. -10 B. 6 C. 6 D. 10

15) A middle school conducts a fire drill. The percent y (in decimal form) of students still inside x minutes after the fire alarm sounds is $y = -0.125x + 1$. After how many minutes are 75% of the students still inside?

2 minutes

16) The steps Andre took to solve the system of linear equations and are shown below. What should Andre change in order to correctly solve the system?

$$4x + 1 = 2x + 7$$
$$6x = 6$$
$$x = 1$$

F. The constants should combine to equal 8.

G. The x-terms should combine to equal $2x$.

H. The constants should combine to equal 2.

I. The x-terms should combine to equal $-6x$.

17) Which ordered pair is a solution to the system of linear equations below?

$$y = \frac{1}{4}x + 2$$
$$y = x - 1$$

A. $(-4, 1)$ B. $(3, 4)$ C. $(4, 3)$ D. $(6, 4)$

18) James and Max are saving their allowances to buy laptop computers. James has saved \$30 already and earns a \$5 allowance each week. Max has saved \$10 already and earns a \$10 allowance each week.

a. Write a system of equations that can represent this situation. Use x to represent the number of weeks and y to represent the total amount saved.

Equation for James $y = 5x + 30$

Equation for Max $y = 10x + 10$

b. After how many more weeks will James and Max have the same amount of money saved?

Use your equations from Part A and the coordinate grid. Check your solution by solving the system using elimination or substitution.

Number of weeks 4