Name_____ Date _____

5.2 Practice A

In Exercises 1–3, tell which equation you would choose to solve for one of the variables. Explain.

1. $5x + y = 2$
$3x + y = 7$

2. $2x - 3y = 6$
$x + 7y = 2$

3. $4x - y = -3$
$3x + 3y = 7$

In Exercises 4–9, solve the system of linear equations by substitution. Check your solution.

4. $y = 10 - 2x$
$x = y - 4$

5. $4y + 1 = x$
$x = 5y$

6. $y = 11 + 4x$
$3x + 2y = 0$

7. $5y = 10$
$x - 3y = 4$

8. $x + y = -2$
$2x - y = 14$

9. $-x + y = 2$
$3x - 5y = -4$

10. Describe and correct the error in solving for one of the variables in the linear system $-x + 4y = -9$ and $3x - 2y = 7$.

✗

Step 1 $-x + 4y = -9$
$-x = -4y - 9$

Step 2 $3(-4y - 9) - 2y = 7$
$-12y - 27 - 2y = 7$
$-14y = 34$
$y = -\frac{17}{7}$

In Exercises 11–13, write a system of linear equations that has the ordered pair as its solution.

11. $(1, 4)$

12. $(9, -3)$

13. $(-2, -1)$

14. A biology test is worth 100 points and has 36 questions.

a. Multiple-choice questions are worth 2 points each and essay questions are worth 6 points each. How many questions of each type are on the test?

b. Your friend says that it is possible for the multiple-choice questions to be worth 4 points each. Is your friend correct? Explain.

15. Find the values of a and b so that the solution of the linear system is $(5, 2)$.

$ax + by = 23$ Equation 1
$ax - by = 7$ Equation 2

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5.2 Practice B

In Exercises 1–6, solve the system of linear equations by substitution. Check your solution.

1. $2x + 2y = 4$
$y = 12 - 3x$

2. $-2x + 9y = 15$
$x + 7 = 4$

3. $x - y = 4$
$2x - 3y = 3$

4. $4x + 3y = -1$
$3x + y = -7$

5. $5x + 5y = -10$
$3x - 7y = 4$

6. $-x + y = 7$
$6x - y = -7$

7. A humane society has 73 dogs and cats to be adopted. The number of cats is 10 more than twice the number of dogs. Write a system of linear equations that represents this situation. How many of each animal is up for adoption?

In Exercises 8–10, write a system of linear equations that has the ordered pair as its solution.

8. $(-6, -2)$

9. $(-12, 18)$

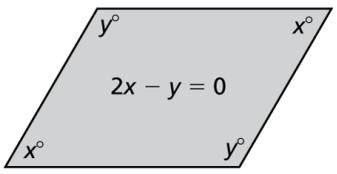
10. $(2, 0)$

11. A wedding planner purchased both small and large lanterns for a wedding reception. The planner purchased a total of 40 lanterns for a purchase price of \$1180. How many of each size lantern did the planner purchase?

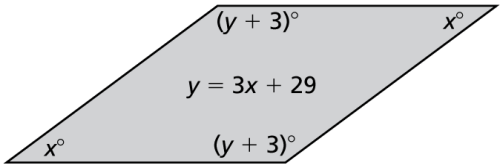
Lantern	Small	Large
Price	\$25	\$40

In Exercises 12 and 13, (a) write an equation that represents the sum of the angle measures of the parallelogram and (b) use your equation and the equation shown to find the values of *x* and *y*.

12.



13.



14. Write a system of linear equations in which (2, –1) is a solution of Equation 1 but not a solution of Equation 2, and (5, 5) is a solution of the system.