Name _____ Class _____ Date _____

Practice

Form K

Solving Systems Using Substitution

Solve each system using substitution. Check your solution.

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

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

3. $4y = 5x - 1$
$3x - 2y = 1$

4. $4x - y = -11$
$y = -\frac{1}{2}x + 2$

5. $2x + 3y = 12$
$x - 2y = -4.5$

6. $y = \frac{-x}{4} + 4$
$x + 2y = 6$

7. Writing Explain how a solution found using substitution can be checked.

8. Writing With the substitution method, explain how you find the value of the second variable once you have determined the value of one of the variables.

9. Reasoning For the system of equations $\begin{matrix} x - 2y = -5 \\ 2x - 3y = -3 \end{matrix}$, which variable will you solve for first? Once you have solved for the first variable, which equation will you use to substitute into? Explain. Solve the system of equations.

10. If the difference of two numbers is 43 and the sum of the numbers is 13, what are the numbers?

11. David earns $1.50 per hour more than Peter. Together, they earn $940 if they both work 40 hours in a week. How much money per hour do David and Peter earn?

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Name _____ Class _____ Date _____

Practice (continued) *Form K*

Solving Systems Using Substitution

12. The fifth-grade teachers took their classes on a field trip to a museum. The first group had 25 students and two teachers and cost $97.50. The second group had 32 students and three teachers and cost $127. What is the cost per student and per teacher?

13. Diana purchased 6 pounds of strawberries and 4 pounds of apples for $18.90. Then she realized that this was not enough and purchased 3 more pounds of each fruit for $10.74. What was the cost per pound for each type of fruit?

14. If the width of the rectangle is three times the length and the perimeter of the rectangle is 72 ft, what are the length and width of the rectangle?

15. There are 785 students in the senior class. If there are 77 more females in the class than males, how many male and female seniors are there in the class?

Solve each system by substitution. Tell whether the system has *one solution*, *infinitely many solutions*, or *no solution*.

16. $6x - 3y = 15$
$y = 2x - 5$

17. $4x + y = -2$
$-3x - y = 0$

18. $5x + 2y = 6$
$3y = 2x + 9$

19. $2x - 6y = 12$
$3y = x + 6$

20. $4x + y = 0$
$2x - y = -12$

21. $4x + 2y = 7$
$y = -2x + 3.5$

22. $y = 5x - 1$
$5x + y = 1$

23. $y = 3x - 6$
$-3x + y = 6$

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