NAME _____ DATE _____ PERIOD _____

7-2 Practice

Substitution

Use substitution to solve each system of equations. If the system does *not* have exactly one solution, state whether it has *no* solution or *infinitely many* solutions.

1. $y = 6x$
$2x + 3y = -20$

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

3. $x = 2y + 7$
$x = y + 4$

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

5. $y = 2x + 6$
$2x - y = 2$

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

7. $x + 2y = 13$
$-2x - 3y = -18$

8. $x - 2y = 3$
$4x - 8y = 12$

9. $x - 5y = 36$
$2x + y = -16$

10. $2x - 3y = -24$
$x + 6y = 18$

11. $x + 14y = 84$
$2x - 7y = -7$

12. $0.3x - 0.2y = 0.5$
$x - 2y = -5$

13. $0.5x + 4y = -1$
$x + 2.5y = 3.5$

14. $3x - 2y = 11$
$x - \frac{1}{2}y = 4$

15. $\frac{1}{2}x + 2y = 12$
$x - 2y = 6$

16. $\frac{1}{3}x - y = 3$
$2x + y = 25$

17. $4x - 5y = -7$
$y = 5x$

18. $x - 3y = -4$
$2x + 6y = 5$

EMPLOYMENT For Exercises 19–21, use the following information.

Kenisha sells athletic shoes part-time at a department store. She can earn either \$500 per month plus a 4% commission on her total sales, or \$400 per month plus a 5% commission on total sales.

19. Write a system of equations to represent the situation.

20. What is the total price of the athletic shoes Kenisha needs to sell to earn the same income from each pay scale?

21. Which is the better offer?

MOVIE TICKETS For Exercises 22 and 23, use the following information.

Tickets to a movie cost \$7.25 for adults and \$5.50 for students. A group of friends purchased 8 tickets for \$52.75.

22. Write a system of equations to represent the situation.

23. How many adult tickets and student tickets were purchased?

NAME _____ DATE _____ PERIOD _____

7-3 Practice

Elimination Using Addition and Subtraction

Use elimination to solve each system of equations.

1. $x - y = 1$
$x + y = -9$

2. $p + q = -2$
$p - q = 8$

3. $4x + y = 23$
$3x - y = 12$

4. $2x + 5y = -3$
$2x + 2y = 6$

5. $3x + 2y = -1$
$4x + 2y = -6$

6. $5x + 3y = 22$
$5x - 2y = 2$

7. $5x + 2y = 7$
$-2x + 2y = -14$

8. $3x - 9y = -12$
$3x - 15y = -6$

9. $-4c - 2d = -2$
$2c - 2d = -14$

10. $2x - 6y = 6$
$2x + 3y = 24$

11. $7x + 2y = 2$
$7x - 2y = -30$

12. $4.25x - 1.28y = -9.2$
$x + 1.28y = 17.6$

13. $2x + 4y = 10$
$x - 4y = -2.5$

14. $2.5x + y = 10.7$
$2.5x + 2y = 12.9$

15. $6m - 8n = 3$
$2m - 8n = -3$

16. $4a + b = 2$
$4a + 3b = 10$

17. $-\frac{1}{3}x - \frac{4}{3}y = -2$
$\frac{1}{3}x - \frac{2}{3}y = 4$

18. $\frac{3}{4}x - \frac{1}{2}y = 8$
$\frac{3}{2}x + \frac{1}{2}y = 19$

19. The sum of two numbers is 41 and their difference is 5. What are the numbers?

20. Four times one number added to another number is 36. Three times the first number minus the other number is 20. Find the numbers.

21. One number added to three times another number is 24. Five times the first number added to three times the other number is 36. Find the numbers.

22. LANGUAGES English is spoken as the first or primary language in 78 more countries than Farsi is spoken as the first language. Together, English and Farsi are spoken as a first language in 130 countries. In how many countries is English spoken as the first language? In how many countries is Farsi spoken as the first language?

23. DISCOUNTS At a sale on winter clothing, Cody bought two pairs of gloves and four hats for $43.00. Tori bought two pairs of gloves and two hats for $30.00. What were the prices for the gloves and hats?

NAME _____ DATE _____ PERIOD _____

7-4 Skills Practice

Elimination Using Multiplication

Use elimination to solve each system of equations.

1. $x + y = -9$
$5x - 2y = 32$

2. $3x + 2y = -9$
$x - y = -13$

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

4. $2x + y = 3$
$-4x - 4y = -8$

5. $4x - 2y = -14$
$3x - y = -8$

6. $2x + y = 0$
$5x + 3y = 2$

7. $5x + 3y = -10$
$3x + 5y = -6$

8. $2x + 3y = 14$
$3x - 4y = 4$

9. $2x - 3y = 21$
$5x - 2y = 25$

10. $3x + 2y = -26$
$4x - 5y = -4$

11. $3x - 6y = -3$
$2x + 4y = 30$

12. $5x + 2y = -3$
$3x + 3y = 9$

13. Two times a number plus three times another number equals 13. The sum of the two numbers is 7. What are the numbers?

14. Four times a number minus twice another number is -16. The sum of the two numbers is -1. Find the numbers.

Determine the best method to solve each system of equations. Then solve the system.

15. $2x + 3y = 10$
$5x + 2y = -8$

16. $8x - 7y = 18$
$3x + 7y = 26$

17. $y = 2x$
$3x + 2y = 35$

18. $3x + y = 6$
$3x + y = 3$

19. $3x - 4y = 17$
$4x + 5y = 2$

20. $y = 3x + 1$
$3x - y = -1$

Lesson 7-4