

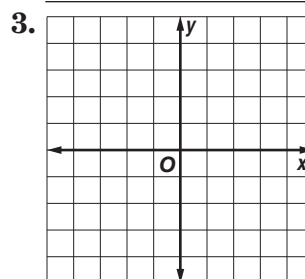
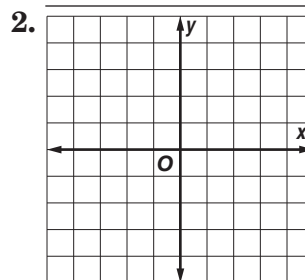
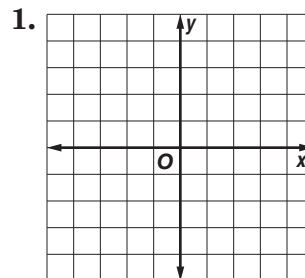
# 5 Chapter 5 Test, Form 3

Graph each system of equations. Determine whether the system has *no* solution, *one* solution, or *infinitely many* solutions. If the system has one solution, name it.

1.  $\frac{1}{3}y = x$   
 $y + x + 4 = 0$

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

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



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.

4.  $y = 2x - 7$   
 $3x - 4y = 8$

5.  $4y - 3x = 5$   
 $\frac{3}{4}x = y - 4$

6.  $\frac{1}{2}x - 5y = 19$   
 $x - 2y = -10$

7.  $0.5x + 3.5y = 1$   
 $x = 2 - 7y$

8.  $x - 2y = -3$   
 $y = 3x - 1$

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

Use elimination to solve each system of equations.

10.  $6x - 7y = 21$   
 $3x + 7y = 6$

11.  $0.2x + 0.5y = 0.7$   
 $-0.2x - 0.6y = -1.4$

12.  $2x + \frac{2}{3}y = -8$   
 $\frac{1}{2}x - \frac{1}{3}y = 1$

13.  $\frac{1}{2}x + \frac{2}{5}y = -10$   
 $3x + 6y = -6$

14.  $0.4x - 0.1y = 1$   
 $0.5x - 0.1y = 1.6$

15.  $\frac{3}{4}x + \frac{1}{2}y = 1\frac{1}{2}$   
 $\frac{3}{4}x + y = 4\frac{1}{2}$

4. \_\_\_\_\_  
 5. \_\_\_\_\_  
 6. \_\_\_\_\_  
 7. \_\_\_\_\_  
 8. \_\_\_\_\_  
 9. \_\_\_\_\_  
 10. \_\_\_\_\_  
 11. \_\_\_\_\_  
 12. \_\_\_\_\_  
 13. \_\_\_\_\_  
 14. \_\_\_\_\_  
 15. \_\_\_\_\_

# 5 Chapter 5 Test, Form 3 *(continued)*

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

16.  $x + y = 147$   
 $25x + 10y = 2415$

17.  $7y = 2\frac{1}{2} - 2x$   
 $5x = 3y - 4$

16. \_\_\_\_\_

17. \_\_\_\_\_

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

18.  $\frac{1}{2}x + \frac{3}{4}y = -2$   
 $\frac{1}{4}x - \frac{3}{4}y = \frac{7}{2}$

19.  $0.5x + 4.1y = 2.8$   
 $0.5x - 2.1y = -3.2$

18. \_\_\_\_\_

19. \_\_\_\_\_

20. Three times one number added to five times a second number is 68. Three times the second number minus four times the first number is 6. What are the two numbers?

20. \_\_\_\_\_

21. The difference of two numbers is 5. Five times the lesser number minus the greater number is 9. What are the two numbers?

21. \_\_\_\_\_

22. The sum of the digits of a 2-digit number is 13. If the digits are reversed, the new number is 9 more than the original number. Find the original number.

22. \_\_\_\_\_

23. A trail mix that costs \$2.45 per pound is mixed with a trail mix that costs \$2.30 per pound. How much of each type of trail mix must be used to have 30 pounds of a trail mix that costs \$2.35 per pound?

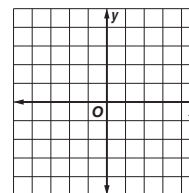
23. \_\_\_\_\_

24. A boat travels 60 miles downstream in the same time it takes to go 36 miles upstream. The speed of the boat in still water is 15 mph greater than the speed of the current. Find the speed of the current.

24. \_\_\_\_\_

25. Mrs. Lewis needs to buy two types of grain, oats and barley, to mix as a feed supplement for her cattle. She has \$4275 to spend on grain, and wants the mixture to be 3 parts oats and 2 parts barley. She can buy oats for \$1.10 per bushel and barley for \$2.10 per bushel. Mrs. Lewis needs 7,000 bushels of grain. How many bushels of barley should she buy?

25. \_\_\_\_\_



**Bonus** Find the area of the polygon formed by the system of equations  $y = 0$ ,  $y = 2x + 4$  and  $-3y - 4x = -12$ . Use the graph on the right.

**B:** \_\_\_\_\_