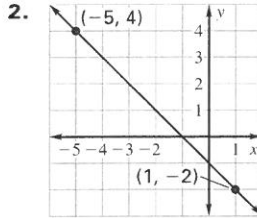
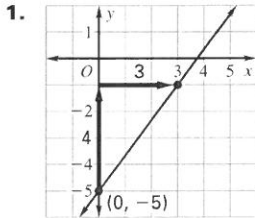


Name \_\_\_\_\_

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**CHAPTER 5** **Chapter Test B**  
For use after Chapter 5

Write an equation in slope-intercept form of the line shown.



**Answers**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. See left.
8. See left.
9. \_\_\_\_\_
10. \_\_\_\_\_

In Exercises 3 and 4, use the following information.

A delivery service charges a base price for an overnight delivery of a package plus an extra charge for each pound the package weighs. A customer is billed \$22.85 for shipping a 3-pound package and \$40 for shipping a 10-pound package.

3. Write an equation that gives the total cost of shipping a package as a function of the weight of the package.
4. Find the cost of shipping a 15-pound package.

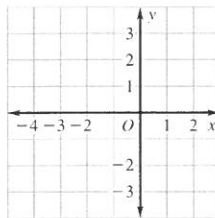
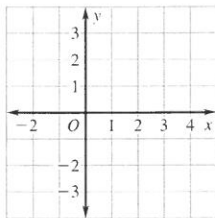
Find the missing coefficient in the equation of the line that passes through the given point.

5.  $Ax + y = 3$ ;  $(2, -5)$
6.  $3x + By = -1$ ;  $(2, 7)$

Graph the equation.

7.  $y - 2 = \frac{2}{3}(x - 4)$

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



In Exercises 9 and 10, use the table.

<b>x</b>	2	4	6	9	11
<b>y</b>	-3	5	13	25	33

9. Explain why the data can be modeled by a linear equation.
10. Write an equation in point-slope form that relates  $y$  to  $x$ .

Name \_\_\_\_\_

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**CHAPTER**  
**5**

**Chapter Test B** *continued*  
*For use after Chapter 5*

**Write an equation in standard form of the line that passes through the given point and has the given slope  $m$  or that passes through the given points.**

11.  $(-4, 3), m = \frac{1}{2}$                       12.  $(2, -3), m = -4$   
13.  $(-2, -1), (2, -6)$                 14.  $(-2, 5), (3, 5)$

**In Exercises 15 and 16, use the following information.**

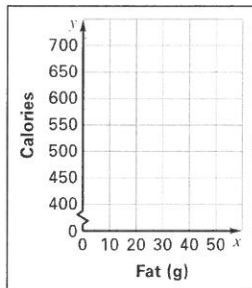
A piggy bank contains only nickels and quarters. The total value in the bank is \$3.80.

15. Write an equation in standard form that models the possible combinations of nickels and quarters in the piggy bank.  
16. List two of these possible combinations.  
17. Write an equation of the line that passes through the point  $(-4, -1)$  and is (a) parallel to and (b) perpendicular to the line  $2x + 7y = 14$ .

**In Exercises 18–22, use the table.**

<b>Fat (g)</b>	31	39	19	34	43	39	35
<b>Calories</b>	580	680	410	590	660	640	570

18. Make a scatter plot of the data.



19. Describe the correlation.  
20. Use technology to find the equation of the best-fitting line for the data.  
21. Graph the best-fitting line for the data on the scatter plot.  
22. Predict the number of calories in a hamburger that contains 34 grams of fat.

**Answers**

11. \_\_\_\_\_  
12. \_\_\_\_\_  
13. \_\_\_\_\_  
14. \_\_\_\_\_  
15. \_\_\_\_\_  
16. \_\_\_\_\_  
17. \_\_\_\_\_  
18. See left.  
19. \_\_\_\_\_  
20. \_\_\_\_\_  
21. See left.  
22. \_\_\_\_\_

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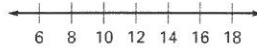
**CHAPTER 6** **Chapter Test B**  
For use after Chapter 6

**Solve the inequality. Graph your solution.**

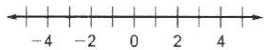
1.  $x + 8 > -10$



2.  $\frac{y}{-4} < -3$



3.  $7 - 5d < -3$



4.  $4a - 8 < 2a$



**In Exercises 5 and 6, use the following information.**

To be eligible for the playoffs, a baseball team cannot lose more than 40% of its remaining games. The team has 18 games remaining in the regular season.

5. Write and solve an inequality to find the number of games  $g$  that the team could lose and still be eligible for the playoffs.
6. If the baseball team loses 8 of its remaining games, will the team advance to the playoffs? *Explain* your answer.

**Solve the inequality, if possible.**

7.  $2(3x - 1) > 6(x + 1)$
8.  $3(2p - 5) \geq 8p - 5$
9.  $5(2s + 7) - 4 > 10s - 7$

**Translate the verbal statement into an inequality. Then solve the inequality.**

10. Five-eighths of a number  $x$  is greater than or equal to  $-10$ .
11. The difference of 9 and  $3x$  is less than or equal to  $-6$ .

**In Exercises 12 and 13, use the following information.**

The photography club at your school decides to publish a calendar to raise money. The initial cost for equipment and software is \$600. In addition to the initial cost, each calendar costs \$2.50 to produce. The club plans to sell the calendars for \$8 each.

12. Write and solve an inequality to find the number  $n$  of calendars that the photography club must sell in order to raise at least \$1200.
13. Will the club reach their fundraising goal if they sell 110 calendars? *Explain* your answer.

**Answers**

1. \_\_\_\_\_

See left.

2. \_\_\_\_\_

See left.

3. \_\_\_\_\_

See left.

4. \_\_\_\_\_

See left.

5. \_\_\_\_\_

\_\_\_\_\_

6. \_\_\_\_\_

\_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

\_\_\_\_\_

11. \_\_\_\_\_

\_\_\_\_\_

12. \_\_\_\_\_

\_\_\_\_\_

13. \_\_\_\_\_

\_\_\_\_\_

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Date \_\_\_\_\_

**CHAPTER 6** **Chapter Test B** *continued*  
For use after Chapter 6

**Solve the compound inequality. Graph your solution.**

14.  $5 - x > 2$  or  $5 \leq x - 7$



15.  $-10 \leq 2(x - 1) < 14$



16. The water pressure  $p$  (in pounds per square inch) exerted on an object in the ocean can be given by the function  $p = 15 + \frac{6}{11}d$  where  $d$  is the depth (in feet) below the surface of the water. What are the possible water pressures of an object when the depth ranges from 102 feet to 468 feet?

**Solve the equation or inequality, if possible.**

17.  $|3x - 1| = 2$

18.  $2|x| - 7 = 3$

19.  $2|x + 8| + 6 = 0$

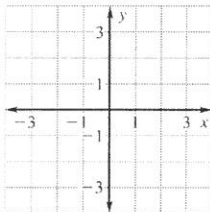
20.  $|x - 2| + 6 > 9$

21.  $-2|4 - x| \leq -4$

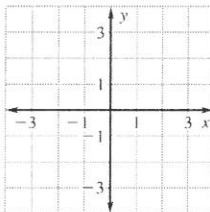
22.  $|2x - 8| < 0$

**Graph the inequality.**

23.  $y > -3x - 2$



24.  $x - 3y < 6$

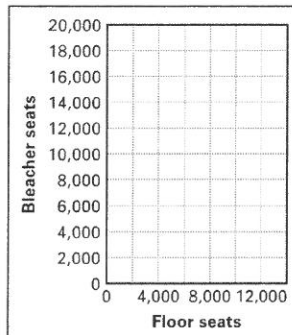


**In Exercises 25 and 26, use the following information.**

A concert promoter needs to take in at least \$380,000 from ticket sales. The promoter charges \$30 for floor seats and \$20 for bleacher seats.

25. Write and graph an inequality that describes the goal in terms of selling bleacher seat tickets and selling floor seat tickets.

26. Identify and interpret one of the solutions.



**Answers**

14. \_\_\_\_\_

See left.

15. \_\_\_\_\_

See left.

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

\_\_\_\_\_

\_\_\_\_\_

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

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

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

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

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

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

23. See left.

24. See left.

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

See left.

26. \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_

**CHAPTER 7** **Chapter Test B**  
For use after Chapter 7

**Tell whether the ordered pair is a solution of the linear system.**

1.  $(4, -1)$

$x + 2y = 2$

$x - 2y = 6$

2.  $(8, 5)$

$5x - 4y = 20$

$3y = 2x + 1$

3.  $(-3, 5)$

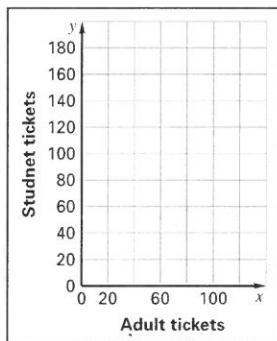
$9x + 7y = 8$

$8x - 9y = -69$

**In Exercises 4–6, use the following information.**

Tickets for a school play cost \$4 for adults and \$2 for students. At the end of the play, the school sold a total of 105 tickets and collected \$360.

4. Write a linear system. Let  $x$  be the number of adult tickets sold and let  $y$  be the number of student tickets sold.
5. Graph the linear system.



6. Find the number of adult tickets sold and the number of student tickets sold.

**Solve the linear system using substitution.**

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

$x = y - 3$

8.  $x + 3y = -28$

$y = -5x$

9.  $x + 4y = -1$

$2x - 5y = 11$

10.  $3x + y = -4$

$2x + y = 0$

11.  $3x - y = 13$

$2x + 5y = 20$

12.  $x - 4y = -3$

$-3x + 5y = 2$

13. A hotel rents a double-occupancy room for \$20 more than a single-occupancy room. One night, the hotel took in \$3115 after renting 15 double-occupancy rooms and 26 single-occupancy rooms. Write and solve a linear system to find the cost of renting a double-occupancy room and the cost of renting a single-occupancy room.

**Answers**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. See left.

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

11. \_\_\_\_\_

12. \_\_\_\_\_

13. \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_

**CHAPTER 7** **Chapter Test B** *continued*  
For use after Chapter 7

**Solve the linear system using elimination.**

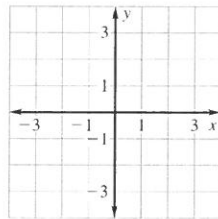
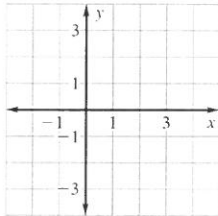
14.  $3x - y = 9$       15.  $5x + 7y = 10$       16.  $4x + 3y = 15$   
 $2x + y = 1$        $3x - 14y = 6$        $2x - 5y = 1$
17.  $2x + 3y = 1$       18.  $2x - 3y = -2$       19.  $2x + 9y = 16$   
 $3x - 5y = -8$        $-2y + 3x = 12$        $5x = 1 - 3y$

**Without solving the linear system, tell whether the linear system has one solution, no solution, or infinitely many solutions.**

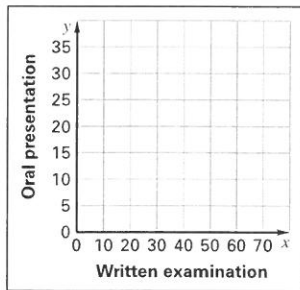
20.  $y = 2 - 3x$       21.  $y = x + 2$       22.  $2x - y = 1$   
 $6x + 2y = 7$        $x + y = 6$        $4x - 2y = 2$
23. On Monday, the office staff at your school paid \$8.77 for 4 cups of coffee and 7 bagels. On Wednesday, they paid \$15.80 for 8 cups of coffee and 14 bagels. Can you determine the cost of a bagel? *Explain.*

**Graph the system of linear inequalities.**

24.  $y \geq x - 3$       25.  $x < 3$   
 $y \leq -x + 2$        $y > 1$   
 $y \geq -x$



26. In an academic competition, scoring is based on a written examination and an oral presentation. The written examination score cannot exceed 65 points and the oral presentation cannot exceed 35 points. Write and graph a system of inequalities for the scores a school team can receive.



**Answers**

14. \_\_\_\_\_  
 15. \_\_\_\_\_  
 16. \_\_\_\_\_  
 17. \_\_\_\_\_  
 18. \_\_\_\_\_  
 19. \_\_\_\_\_  
 20. \_\_\_\_\_  
 21. \_\_\_\_\_  
 22. \_\_\_\_\_  
 23. \_\_\_\_\_  
 24. See left.  
 25. See left.  
 26. See left.

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