LESSON 11.1

Name _____ Date _____

Practice

For use with pages 533–536

Write the integer that represents the situation.

1. 3 people join

2. a withdrawal of 20 dollars

3. a loss of 8 pounds

4. 6 feet below the surface

5. a $200 increase in tuition

6. a $10 loss

Find the opposite of the integer.

7. 2

8. -1

9. 5

10. -8

Complete the statement using < or >.

11. $4 \_\_\_\_ -4$

12. $0 \_\_\_\_ -3$

13. $-6 \_\_\_\_ 0$

14. $-7 \_\_\_\_ -5$

15. $-2 \_\_\_\_ -9$

16. $-1 \_\_\_\_ 1$

In Exercises 17–20, order the integers from least to greatest.

17. $7, -2, -4, 3, -8$

18. $0, 4, -3, -4, 6, -1$

19. $-5, 6, -2, 1, -1$

20. $4, -7, -2, 3, 0, -1, 1$

21. Your friend is standing 50 feet away from you. You move 20 feet closer to play catch. Write the integer that represents the change in the distance.

22. A monkey in a tree drops 12 feet to a lower branch. Write the integer that represents the monkey's change in position.

LESSON 11.1 Continued

Name _____ Date _____

Practice

For use with pages 533–536

Tell whether the statement is *true* or *false*.

23. The opposite of negative four is less than three.

24. Negative two is to the right of negative six on a number line.

25. The opposite of negative seven is greater than five.

26. One is greater than the opposite of negative three.

In Exercises 27–29, use the table that shows the change in the water level of a pond during the given month.

Water Level Changes					
Month	May	June	July	August	September
Change in Water Level	6 cm	−3 cm	−4 cm	−7 cm	4 cm

27. In which month did the water level *rise* the most?

28. In which month did the water level *drop* the most?

29. Which integers in the table are opposites?

LESSON 11.2

Name _____ Date _____

Practice

For use with pages 537–541

Find the absolute value of the number.

1. -52 **2.** 17 **3.** -48 **4.** 87

Find the sum using a number line.

5. $2 + (-4)$ **6.** $-5 + 5$ **7.** $-1 + 5$

8. $8 + (-5)$ **9.** $-6 + (-3)$ **10.** $-12 + (-7)$

In Exercises 11–19, find the sum.

11. $5 + (-2)$ **12.** $-8 + 0$ **13.** $-3 + (-8)$

14. $12 + (-4)$ **15.** $18 + (-12)$ **16.** $-5 + (-13)$

17. $-24 + 14$ **18.** $22 + (-9)$ **19.** $-16 + (-15)$

20. Find the sum of negative 5 and positive 12.

21. Find the sum of negative 8 and negative 11.

22. Find the sum of positive 12 and negative 19.

LESSON 11.2 Continued

Name _____ Date _____

Practice

For use with pages 537–541

In Exercises 23 and 24, use the table below that shows the transactions in a bank account during the week. There was a balance of $53 in the account at the beginning of the week.

Account Transactions					
Day	Monday	Tuesday	Wednesday	Thursday	Friday
Transactions	deposit $15	withdraw $8	withdraw $5	deposit $20	withdraw $23

23. Write an expression that describes the money in the account.

24. Find the amount of money in the account at the end of the week.

Complete the statement with <, >, or =.

25. $-3 + 8$ ____ $-7 + 4$

26. $8 + (-5)$ ____ $-2 + 5$

27. $-6 + (-3) + 2$ ____ $7 + (-3) + (-10)$

28. $-6 + (-8) + 13$ ____ $-1 + 9 + (-6)$

In Exercises 29–31, evaluate the expression when $a = -3$ and $b = 4$.

29. $a + b$ **30.** $-4 + b$ **31.** $7 + a + b$

32. In one set of downs, a football team had gains and losses of 6 yards, -4 yards, 3 yards, and 4 yards. Did the team gain the 10 yards needed for a first down?

LESSON 11.3

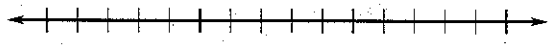
Name _____ Date _____

Practice

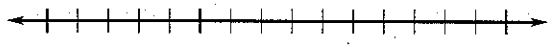
For use with pages 542–547

Use a number line to find the difference.

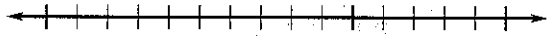
1. $5 - 12$



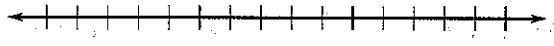
2. $3 - (-6)$



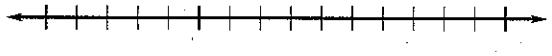
3. $9 - (-4)$



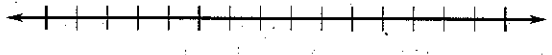
4. $0 - (-7)$



5. $-2 - (-8)$



6. $-4 - 3$



In Exercises 7–18, find the difference.

7. $5 - (-2)$

8. $-9 - (-6)$

9. $-2 - 4$

10. $0 - (-8)$

11. $12 - (-4)$

12. $-3 - (-16)$

13. $-7 - 7$

14. $0 - 11$

15. $14 - 18$

16. $-10 - (-12)$

17. $23 - (-14)$

18. $-15 - (-21)$

19. Find the difference between negative 6 and positive 9.

20. Find the difference between negative 12 and negative 16.

21. Find the difference between positive 18 and negative 5.

22. A woman's credit card bill states that she owes \$210. During the next month she spends another \$107. How much does she owe now?

23. The temperature in your kitchen is 22°C. The temperature inside your kitchen freezer is −2°C. How many degrees colder is the freezer than the kitchen?

LESSON 11.3 Continued

Name _____ Date _____

Practice

For use with pages 542–547

In Exercises 24–29, evaluate the expression when $a = -5$, $b = 6$, $c = -9$, and $d = 2$.

24. $b + c - d$

25. $a - b - c$

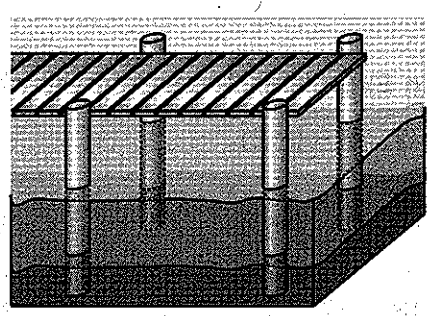
26. $d - b + a$

27. $d - c + a$

28. $b - d - a$

29. $b + a - c$

30. You are building a dock on a lake. You want to sink the posts for the dock 3 feet deep into the lake bottom. The lake bottom where you are placing one post is under 5 feet of water. How far beneath the surface of the water will the bottom of the post be?



31. The Brooklyn Bridge has towers that reach a height of 276 feet above the water level. The foundation is 78 feet below the water level. What is the distance from the top of the towers to the foundation?

LESSON 11.4

Name _____ Date _____

Practice

For use with pages 550–553

Find the product.

1. $3(4)$ **2.** $6(-5)$ **3.** $-7(-9)$

4. $8(-4)$ **5.** $-2(-10)$ **6.** $12(-5)$

7. $9(-6)$ **8.** $-11(12)$ **9.** $-14(-3)$

10. $7(-13)$ **11.** $-7(-8)$ **12.** $-15(-11)$

13. Find the product of negative 13 and positive 6.

14. Find the product of negative 14 and negative 7.

15. Find the product of positive 20 and negative 12.

16. Find the product of negative 42 and negative 7.

Evaluate the expression when $x = -8$ and $y = 6$.

17. $5x$ **18.** $-4y$ **19.** $-7x$

20. $-9y$ **21.** xy **22.** $-6xy$

In Exercises 23–26, find the missing numbers in the pattern.

23. 6, -12, ____, -48, 96, ____

24. 2, ____, 2, -2, ____, -2

25. ____, 3, -9, ____, -81, ____

26. -4, ____, -64, 256, ____

LESSON 11.4 Continued

Name _____ Date _____

Practice

For use with pages 550–553

27. A man weighs 220 pounds. He starts a fitness program and plans to lose weight at a rate of 3 pounds per month. At that rate, what would be the change in his weight after 8 months? How much would he weigh?

28. Sheila bought a car for $14,000. The value of her car decreased steadily for 24 months at an average rate of $120 per month. What was the total change in value? What was the value of the car after the 24 months?

In Exercises 29–31, use the following information. One commercial jet aircraft has a maximum flying range of about 3500 miles. The jet uses about 2 gallons of fuel for each mile it flies.

29. About how many miles can the jet fly with 4500 gallons of fuel?

30. Suppose the jet started out full of fuel and had traveled 800 miles so far. About how much fuel has been used?

31. Suppose the jet starts out carrying 5000 gallons of fuel. The jet makes a 2200-mile flight. About how much fuel is left in the jet at the end of the flight?

LESSON 11.5

Name _____ Date _____

Practice

For use with pages 554–559

Use the variable x to write a related multiplication equation.

1. $48 \div 8$ **2.** $-64 \div (-4)$ **3.** $35 \div (-5)$

Divide by solving a related multiplication equation.

4. $65 \div (-5)$ **5.** $-12 \div (-6)$ **6.** $-50 \div 10$

7. $-28 \div 7$ **8.** $-45 \div (-9)$ **9.** $48 \div (-3)$

Find the quotient.

10. $21 \div (-3)$ **11.** $-20 \div (-10)$ **12.** $8 \div (-4)$

13. $-36 \div (-12)$ **14.** $120 \div (-40)$ **15.** $-84 \div 12$

16. $-135 \div (-9)$ **17.** $156 \div (-12)$ **18.** $-323 \div (-17)$

19. Find the quotient of negative 150 and positive 10.

20. Find the quotient of positive 75 and negative 25.

21. Find the quotient of negative 84 and negative 6.

LESSON 11.5 Continued

Name _____ Date _____

Practice

For use with pages 554–559

In Exercises 22–27, evaluate the expression when $x = -8$ and $y = -12$.

22. $\frac{48}{x}$ **23.** $\frac{-84}{y}$ **24.** $\frac{y}{-3}$

25. $\frac{-x}{-2}$ **26.** $\frac{-120}{-x}$ **27.** $\frac{120}{-y}$

28. Find the mean of -7, -13, -17, and -23.

29. Find the mean of -6, -19, 3, and -22.

In Exercises 30 and 31, use the following information. A girls' cross country team raced today. The table shows each girl's time (in seconds) compared to her previous best race time.

Runner	Maria	Becky	Indira	Wanda	Jada
Difference	-7	-9	12	-4	3

30. What is the average change in time between the two races for the girls?

31. Which girl improved her time the most? Which girl was farthest behind her previous best time?

LESSON 11.6

Name _____ Date _____

Practice

For use with pages 562–566

Graph the point and describe its location.

1. $A(6, -2)$

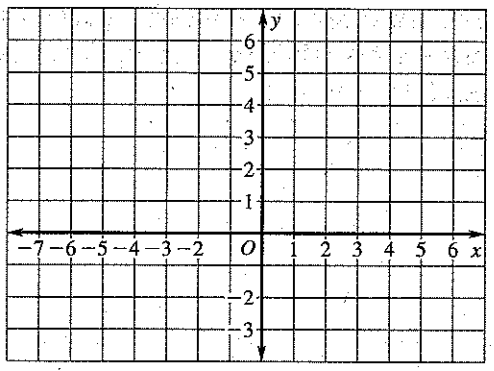
2. $B(-4, 0)$

3. $C(-3, 5)$

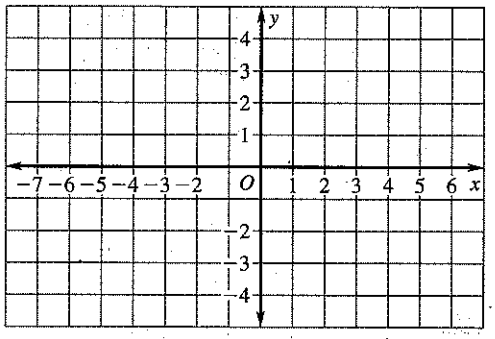
4. $D(1, 4)$

5. $E(-3, -3)$

6. $F(-7, 1)$



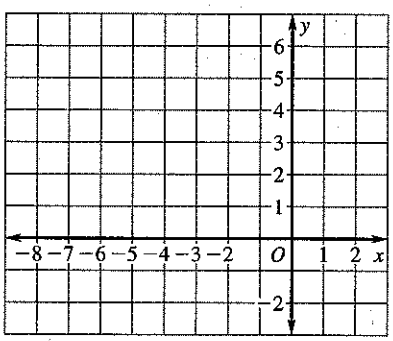
7. Graph the points $K(4, -3)$ and $L(-1, 1)$. Connect the points to form a segment. Then translate the segment 6 units to the left and 3 units up to form $\overline{RS}$. Find the coordinates of the endpoints of $\overline{RS}$.



Draw the figure on a coordinate plane. Then translate the figure as described. Give the coordinates of the vertices of the image.

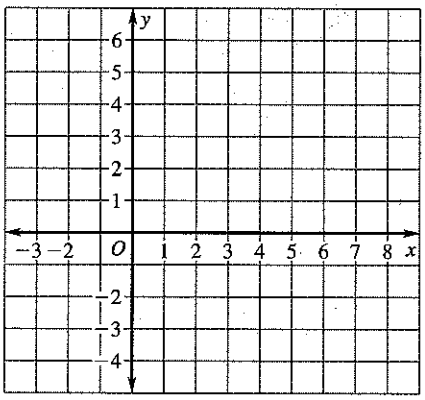
8. Triangle EFG: $E(2, 1)$, $F(-2, -2)$, $G(-2, 4)$

Translation: 5 units to the left and 2 units up to form triangle PQR.



9. Rectangle $RSTU$: $R(7, 3)$, $S(7, 6)$, $T(-1, 6)$, $U(-1, 3)$

Translation: 2 units to the left and 6 units down to form rectangle $ABCD$.



LESSON 11.6 Continued

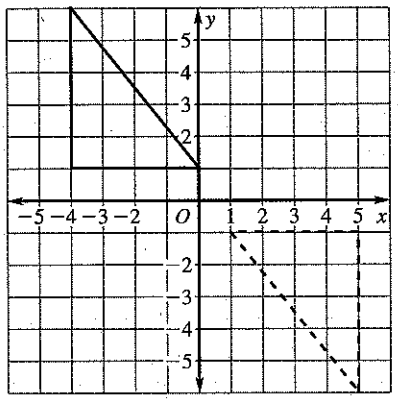
Name _____ Date _____

Practice

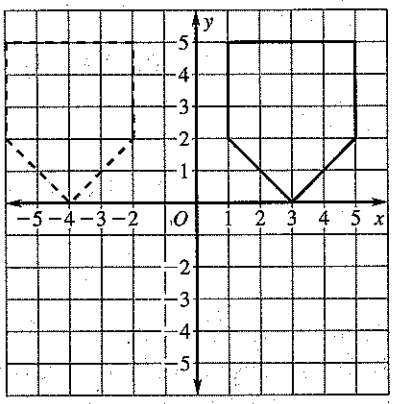
For use with pages 562–566

Tell whether the dashed figure is the image of the solid figure after a translation. If it is, describe the translation. If it is not, explain why not.

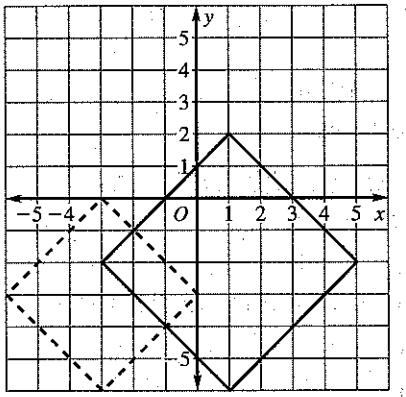
10.



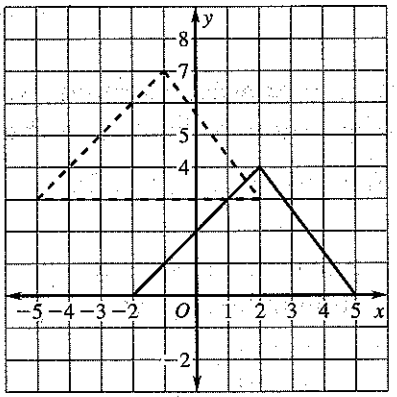
11.



12.



13.



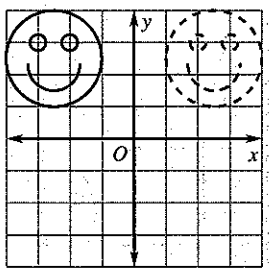
LESSON 11.7

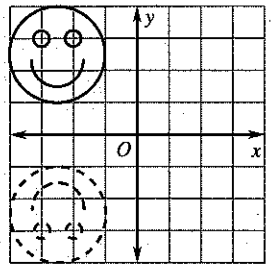
Name _____ Date _____

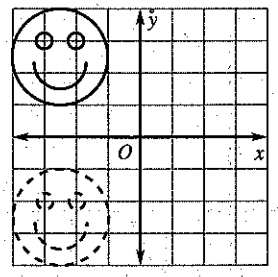
Practice

For use with pages 567–571

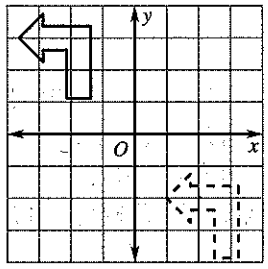
Tell whether the dashed figure is a reflection of the solid figure. If it is, identify the line of reflection.

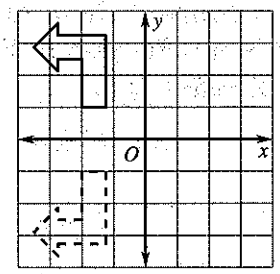
1. 

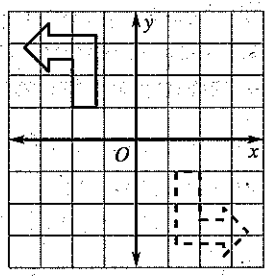
2. 

3. 

Tell whether the transformation is a *translation*, a *reflection*, or a *rotation*.

4. 

5. 

6. 

LESSON 11.7 Continued

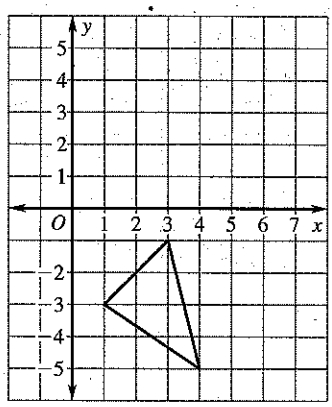
Name _____ Date _____

Practice

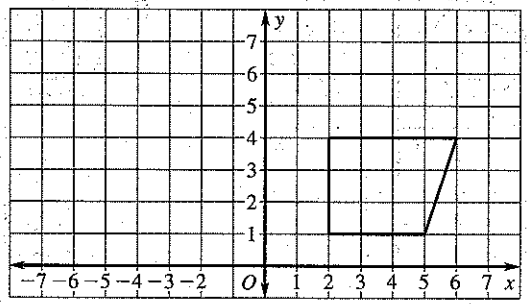
For use with pages 567–571

Complete the reflection of the figure over the indicated axis.

7. x-axis

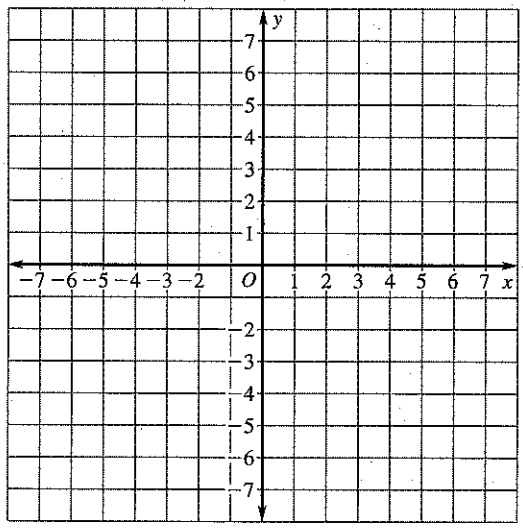


8. y-axis



For each figure, graph the points and connect them to form a polygon. Then tell whether Figure 2 is a reflection of Figure 1. If it is a reflection, identify the line of reflection.

9. Figure 1: $L(0, 6)$, $M(6, 4)$, $N(3, 1)$
Figure 2: $P(0, -6)$, $Q(6, -4)$, $R(3, -1)$



10. Figure 1: $G(-2, -1)$, $H(-4, -1)$, $I(-5, -4)$, $J(-1, -4)$
Figure 2: $R(2, -1)$, $S(4, -1)$, $T(5, -4)$, $U(1, -4)$