Course 1 Unit 2 Practice

LESSON 7-1

1. **Model with mathematics.** Identify the integer at each point.

$$\overset{M \quad N \qquad\quad P \qquad\qquad\quad Q \quad R\ S}{\underset{-12\ -10\ -8\ -6\ -4\ -2\quad 0\quad 2\quad 4\quad 6\quad 8\quad 10\ 12}{\longleftarrow\!\!+\!\!+\!\!+\!\!\bullet\!\!+\!\!+\!\!\bullet\!\!+\!\!+\!\!+\!\!+\!\!\bullet\!\!+\!\!+\!\!+\!\!+\!\!+\!\!\bullet\!\!+\!\!\bullet\!\!\bullet\!\!+\!\!\longrightarrow}}$$

   a. -8

   b. 0

   c. 10

   d. 8

   e. -5
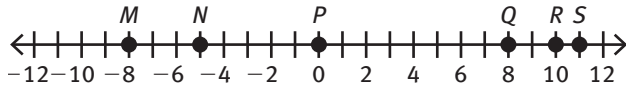
   f. 11

2. Write the opposite of each integer.

   a. 1

   b. -28

   c. 0

   d. $-(-7)$

   e. $|-100|$

   f. -3

3. Write an integer to represent each situation. Explain the opposite of the situation and write an integer to represent the opposite.

   a. 20 feet below sea level.

   b. a deposit of $30

   c. a loss of 12 points

   d. $22°C$

4. **Make use of structure.**

   a. Can a positive rational number be an integer? Explain. Give an example.

   b. Can 0 be classified as a positive rational number? Explain.

5. Liam withdrew $18 from his savings account. Which integer below represents this situation?

   A. 18

   B. -18

   C. $|-18|$

   D. $-(-18)$

LESSON 7-2

6. Compare each pair of integers. Write $>$ or $<$.

   a. -3 _____ -2

   b. 0 _____ -1

   c. $|-9|$ _____ 1

   d. -5 _____ $|-1|$

   e. 2 _____ -20

7. **Model with mathematics.** Use the number line to write the integers 2, -3, -6, 4, and 9 in order from least to greatest.

$$\underset{-10\ -8\ -6\ -4\ -2\quad 0\quad 2\quad 4\quad 6\quad 8\quad 10}{\longleftarrow\!\!+\!\!\longrightarrow}$$
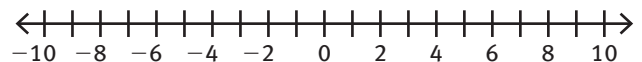
8. Write the integers in order from least to greatest, evaluating each absolute value.

   a. $|-15|, -30, 25, 7, -2$

   b. $18, -16, 3, -13, 97$

   c. $10, -12, -|-7|, -8, 0$

9. Which choice below shows the integers in order from greatest to least?

   A. $-2, 0, 3, 20, 45$

   B. $-10, -3, -6, 0, 10$

   C. $-1, -5, -17, -20, -98$

   D. $18, 1, -6, -1, 0$

10. The following locations are all below sea level. List the locations in order from the lowest elevation to the highest.

Location	Elevation
Amsterdam	-4 meters
Caspian Sea	-28 meters
Dead Sea	-423 meters
Death Valley	-86 meters
Jericho	-258 meters
New Orleans	-2 meters

LESSON 8-1

11. Model with mathematics. Use counters to find each sum.

   a. $-3 + -5$

   b. $-7 + 4$

   c. $-8 + -5$

   d. $-2 + 7$

   e. $-2 + -1$

   f. $5 + -3$

12. Model with mathematics. Use a number line to find the sum.

   a. $8 + -7$

   b. $-6 + 4$

   c. $-7 + 9$

   d. $-6 + -9$
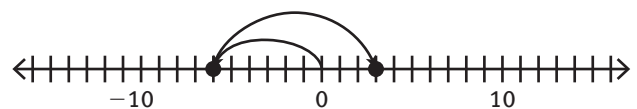
   e. $7 + -7$

   f. $3 + -8$

13. Make use of structure. Will the sum be positive or negative? Explain.

   a. the sum of -18 and 12

   b. the sum of -21 and -39

14. Which addition number sentence represents the model shown?

   A. $-7 + 8$

   B. $-5 + 7$

   C. $9 + -6$

   D. $-6 + 9$

15. The temperature was $-4°F$ at 5 a.m. The temperature rose $6°F$ by noon. Then the temperature dropped $8°F$ by 5 p.m.

   a. What was the temperature at noon?

   b. What was the temperature at 5 p.m.?

LESSON 8-2

16. Determine if each sum will be positive or negative.

   a. $-4 + 8$

   b. $6 + -3$

   c. $-5 + -5$

   d. $-7 + 4$

   e. $-5 + 9$

   f. $-8 + 7$

17. Explain how to use absolute value to add

   a. $-20 + 15$

   b. $-20 + -15$

18. Find each sum.

   a. $-12 + 35$

   b. $17 + -42$

   c. $-29 + -11$

   d. $42 + -38$

   e. $-15 + -12$

   f. $-63 + 56$

   g. $-87 + -36$

   h. $73 + -115 + 26$

   i. $-52 + 41 + -11$

19. Reason quantitatively. The average temperature for 3 days was $3°C$. The temperature readings for the same time each day are in the chart below. The temperature for the third day was erased. What was the temperature for the third day?

Day	Temperature
1	4°C
2	6°C
3	

20. Brian went scuba diving. He dove 7 feet below sea level to investigate some coral. He then dove another 3 feet to look at a school of fish. Which integer represents the depth of the school of fish?

   A. -13

   B. -10

   C. -7

   D. -3

LESSON 8-3

21. Model with mathematics. Show how to use counters to subtract $-8 - 4$.

22. Find each difference.

   a. $9 - (-2)$

   b. $-7 - 8$

   c. $-3 - (-7)$

   d. $-6 - (-4)$

   e. $5 - (-8)$

   f. $4 - 9$

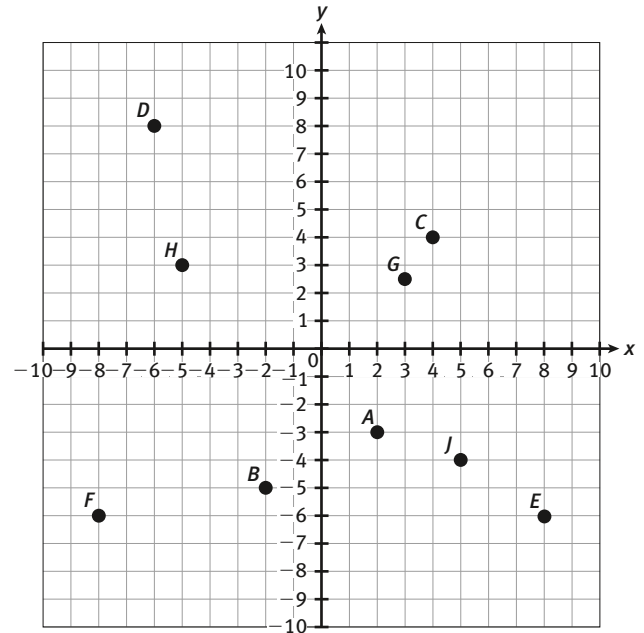   **g.** $-2 - (-2)$

   h. $-1 - 5$

   i. $6 - (-3)$

23. Make use of structure. Explain how to use the rule for subtracting integers to solve $-4 - (-8)$. Find the difference.

24. At a temperature of 5°F and a wind of 10 mph, the wind chill is -10°F. What is the difference between the actual temperature and the wind chill?

   A. 5°F

   B. 15°F

   C. 20°F

   D. 25°F

LESSON 9-1

25. Write the ordered pair for each point.

   a. A

   b. B

   c. C

   d. D

   e. E

   f. F

   g. G

   h. H

   i. J

(4)

26. Graph and label each point on the coordinate plane below.
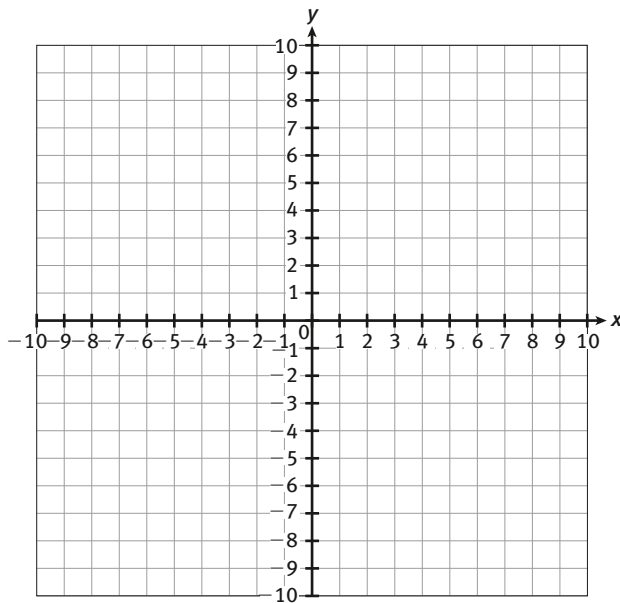
a. $K\,(5, -6)$

b. $L\,(8, 9)$

c. $M\,(-3, 6)$

d. $N\,(-7, -4)$

e. $P\,(2, -4)$

f. $Q\,(1, 3)$

g. $R\,(-6, 2)$

h. $S\,(-4, -7)$

i. $T\,(3\frac{1}{2}, 4)$

27. Name the quadrant in which each point is located.

a. $(-12, 10)$

b. $(9, -1)$

c. $(7, 11)$

d. $(-10, -5)$

28. Attend to precision. Which point is on the *y*-axis $(0, 5)$ or $(5, 0)$? Explain.

29. Caroline graphed the point $(-3, 5)$. Jon switched the coordinates and graphed the result. In which quadrant is Jon's point located?

A. first

B. second

C. third

D. fourth

LESSON 9-2

30. Find the distance between each set of points.

a. $(1, 2)$ and $(1, 16)$

b. $(-8, 3)$ and $(2, 3)$

c. $(-4, -2)$ and $(-4, 9)$

d. $(6, -3)$ and $(6, -10)$

31. Make sense of problems. Jeremy lives at 12th Street and 5th Avenue. His Aunt Sylvia lives on 12th Street and 8th Avenue, his cousin Adriana lives on 7th Street and 5th Avenue, and his cousin Robert lives at 5th Street and 8th Avenue.

a. Write each location as an ordered pair.

b. What is the distance between Jeremy's home and Adriana's home?

c. What is the distance between Aunt Sylvia's home and Robert's home?

32. Make use of structure. Sam places a dot at $(-2, 6)$ to represent point A.

   a. Next he reflects point A across the x-axis and labels it point B. What are the coordinates of point B?

   b. Then he reflects point A across the y-axis and labels it point C. What are the coordinates of point C?

   c. Finally he reflects point B across the x-axis and labels it point D. The location of point D matches which point?

33. What is the reflection of $(-3, -7)$ across the x-axis?

   A. $(3, 7)$

   B. $(-3, 7)$

   C. $(3, -7)$

   D. $(-3, -7)$

LESSON 10-1

34. Determine if each product will be positive or negative.

   a. $20(-3)$

   b. $-4(3)$

   c. $-12(-5)$

   d. $(-3)(2)(-5)$

   e. $(-2)^3$

   f. $(-2)^6$

35. Find each product.

   a. $9(-5)$

   b. $-7(6)$

   c. $-6(-12)$

   d. $16(-3)$

   e. $-9(-7)$

   f. $(-8)^2$

   g. $(5)(-2)(3)(-4)$

   h. $(-5)(-6)(-10)$

   i. $(-3)^3$

   j. $(-6)(-2)^3$

36. Make sense of problems. Alfredo's bank charges an $8 service fee each month if his account goes below $500. In June, Alfredo had $510 in his account. He withdrew $25 and then did not have any transactions in his account for 6 months.

   a. Write as an integer the amount by which Alfredo's bank balance changed during the six months.

   b. What was the balance in the account at the end of January?

   c. How much will Alfredo have to deposit for his account to be at least $500?

37. Use $<$ or $>$ to complete each statement.

    a. $12(-3)$ ___ $-12(-5)$

    b. $(-5)^4$ ___ $(-8)^3$

    c. $(-10)(2)(-3)$ ___ $(-10)(-2)(-3)$

    d. $18(-6)$ ___ $(-6)(-8)$

38. Which is the 12th number in the pattern below?

    $-3, -6, -9, -12 \dots$

    A. -24

    B. -36

    C. -72

    D. -144

LESSON 10-2

39. Use inverse operations to determine each missing number.

    a. $-16 \times$ ___ $= 48$

    b. $12 \div$ ___ $= -2$

    c. $-56 \div$ ___ $= -8$

    d. $-18 \div$ ___ $= -3$

    e. $5 \times$ ___ $= -60$

    f. $-5 \times$ ___ $= -75$

40. Find each quotient.

    a. $-56 \div 7$

    b. $125 \div -25$

    c. $-96 \div -8$

    d. $48 \div -16$

    e. $-105 \div 7$

    f. $-72 \div -8$

    g. $72 \div -6$

    h. $-75 \div 5$

    i. $-63 \div -9$

    j. $36 \div -4$

41. Evaluate each expression.

    a. $(-5)^3 \div 25$

    b. $3 \times -9 \div (-3)^3$

    c. $-9 \times -4 \div (-3)$

    d. $\dfrac{-8 \times -6}{-4 \times 3}$

    e. $\dfrac{6 \times (-9)}{-3 \times (3^2)}$

42. Reason quantitatively. Use $<$, $=$, and $>$ to complete each statement.

    a. $-8 \times (-5 + 10)$ ___ $-80 + 40$

    b. $54 \div -9 \times 3$ ___ $54 \div -9 \div 3$

    c. $-72 \div -8 \div$ ___ $-72 \div -8 \div -3$

43. The low temperatures for 5 days in Fairbanks, Alaska last January were $-15°F$, $-11°F$, $-5°F$, $3°F$, and $-2°F$. What was the mean temperature for the 5 days?

    A. $-10°F$

    B. $-8°F$

    C. $-6°F$

    D. $-5°F$