Lesson
1-1

Vocabulary and English Language Development

▶ Activate Prior Knowledge

Write the opposite of each word.

1 before _____

2 least _____

3 positive _____

4 subtract _____

5 interior _____

6 clockwise _____

▶ Definition Review

Integers are the whole numbers and their opposites: …−3, −2, −1, 0, 1, 2, 3,….
A **positive number** is a number that is greater than zero.
A **negative number** is a number that is less than zero.
Whole numbers are the counting numbers and zero.
Opposites are numbers that are the same distance from zero in opposite directions.

Identify each number as an *integer*, a *whole number*, or *both*.

7 62 _____

8 −41 _____

9 −36 _____

10 8 _____

Identify each number as *positive* or *negative*.

11 31 _____

12 86 _____

13 −42 _____

14 −75 _____

▶ Application

Follow the directions for the activity.

- Write each integer from −10 through 10 on separate pieces of paper. Put the pieces of paper in a bag, hat, or bowl.
- Have 5 student volunteers each pick a number from the bag.
- Instruct the volunteers to line up in front of the class according to their number from least to greatest.
- Ask the remaining students to verify whether or not the students in front of the class are in the correct order.
- Repeat the steps with each new group of students picking new numbers until each student has had a turn.
- As a variation, instruct some groups to line up from greatest to least.

Lesson 1-2 Vocabulary and English Language Development

▶ Activate Prior Knowledge

Find each sum.

1 $5 + 0 =$ _____

2 $0 + 21 =$ _____

Inverse Property of Addition For any number, the sum of that number and its opposite is zero.

Commutative Property of Addition The order in which two numbers are added does not change the sum.

Example: $8 + 7 = 7 + 8$

▶ Definition Review

Match the equal expressions according to the Commutative Property of Addition.

3 $10 + 15$ $22 + 3$

4 $8 + 17$ $15 + 10$

5 $3 + 22$ $11 + 14$

6 $14 + 11$ $17 + 8$

Fill in the blank with the correct number.

7 $16 +$ _____ $= 0$

8 $-27 +$ _____ $= 0$

▶ Application

Follow the directions for the activity.

- Use masking tape to make a number line from -15 to 15 on the floor.
- Write each integer from -8 through 8 on separate pieces of paper. Put the pieces of paper in a bag, hat, or bowl.
- Student 1 picks a number from the bag and finds that number on the number line.
- Student 2 picks a number from the bag, and adds his or her number to the number of the other volunteer using the number line on the floor. What is the sum?
- Using the same numbers, Student 2 should find his or her number on the number line. Student 1 should find the sum using the number line. What is the sum? Is it the same?
- Repeat the steps with each new pair of students picking new numbers until each student has had a turn.

Math Triumphs

Lesson 1-3 Vocabulary and English Language Development

▶ Activate Prior Knowledge

Find each opposite.

1 +7 _____

2 −5 _____

3 −2 _____

4 −4 _____

5 +6 _____

6 +9 _____

▶ Definition Review

The **absolute value** of a number is the distance between the number and zero on a number line.

Opposites are numbers that are the same distance from zero in opposite directions.

Rewrite each subtraction as an addition expression.

7 $7 - 10$ _____

8 $-3 - 5$ _____

9 $-8 - (-6)$ _____

10 $9 - (-4)$ _____

▶ Application

Follow the directions for the activity.

- Use masking tape to make a number line from −15 to 15 on the floor.
- Write each integer from −8 through 8 on separate pieces of paper. Put the pieces of paper in a bag, hat, or bowl.
- Student 1 picks a number from the bag and finds that number on the number line.
- Student 2 picks a number from the bag, and subtracts his or her number from the number of the other volunteer using the number line on the floor. What is the difference?
- Using the same numbers, have Student 2 find the opposite of his or her number on the number line. Student 1 should find the sum using the number line. What is the sum? Is it the same?
- Repeat the steps with each new pair of students picking new numbers until each student has had a turn.

Lesson 1-4 Vocabulary and English Language Development

▶ Activate Prior Knowledge

List all possible whole number factors of each number.

1 20 _____

2 36 _____

▶ Definition Review

A **product** is the answer or result to a multiplication problem. It also refers to expressing a number as the product of its factors.

A **factor** is a number that divides into a whole number with a remainder of zero. It is also a number that is multiplied by another number.

The **Zero Property of Multiplication** states that any number times zero is zero.

The **Identity Property of Multiplication** states that any number times 1 equals that number.

The **Commutative Property of Multiplication** states that the order in which numbers are multiplied does not change the product.

The **Associative Property of Multiplication** states that the manner in which factors are grouped does not change the product.

Find the missing number. Name the multiplication property.

3 $4 \cdot (-8) =$ _____ $\cdot 4$ _____

4 _____ $\cdot 1 = -7$ _____

5 $5 \cdot (6 \cdot 2) = (5 \cdot$ _____$) \cdot 2$ _____

6 $0 \cdot (-7) =$ _____ _____

▶ Application

Follow the directions for the activity.

- Write 20 integer multiplication problems.
- One problem at a time, read the problems aloud.
- If the product is a positive number, your partner should show thumbs up.
- If the product is zero, your partner should show thumbs between up and down.
- If the product is negative, your partner should show thumbs down.
- Determine the product.

Math Triumphs

Lesson 1-5 Vocabulary and English Language Development

▶ Activate Prior Knowledge

Fill in the blank with *positive* or *negative*.

1 The temperature rose 5° each hour for 2 hours. The change in temperature is

_____.

2 Grace deposited $10 in her bank account each month for 6 months. The change in her bank balance is _____.

3 On a game show, a contestant loses $50 for each question answered incorrectly. James had won $400. Then he answered 4 questions incorrectly. The change in the amount of money he won is _____.

▶ Definition Review

A **dividend** is a number that is being divided.

A **divisor** is the number by which the dividend is being divided.

The **quotient** is the answer or result of a division problem.

Label the *dividend, divisor,* and *quotient* in each problem below.

4 _____

$$20 \div 5 = 4$$

_____

_____

5 _____

$$6\overline{)18} \;\; \overset{3}{}$$

_____

_____

▶ Application

Follow the directions for the activity.

- Write 10 integer division problems.
- One problem at a time, read the problems aloud.
- If the product is a positive number, your partner should make a plus sign with his or her hands.
- If the product is zero, your partner should make a zero with his or her hand.
- If the product is a negative number, your partner should make a negative sign with his or her hand.
- Determine the quotient, then switch roles and repeat the activity.

Lesson 2-1 Vocabulary and English Language Development

▶ Activate Prior Knowledge

Complete each sentence using the words *add*, *subtract*, *multiply*, or *divide*.

1 Carlos brushes his teeth three times a day. To find the number of times he brushes his teeth in a week, we can use the rule _____ 3 for each day.

2 Theo saves 2 pennies on Monday, 4 pennies on Tuesday, 8 pennies on Wednesday and so on. His rule for saving pennies is to _____ the previous day's savings by 2.

3 John buys a 32-ounce bottle of juice. He drinks 8 ounces of juice each day. To find the amount of juice left after 3 days, use the rule _____ 8.

4 Matilda is reading a book that is 240 pages long. After the first day of reading, she has 120 pages left. After the second day she has 60 pages left, and after the third day she has 30 pages left. To find the number of pages Matilda has left to read on the fourth day, we can _____ by 2.

▶ Definition Review

A **pattern** is a sequence of numbers, figures, or symbols that follows a rule or design.
A **rule** tells how numbers are related.
A **term** is each number in a sequence.

Match the pattern to its rule.

5 6, 21, 36, 51   Divide by 4.

6 64, 16, 4, 1   Add 300.

7 100; 400; 700; 1,000   Subtract 4.

8 2004, 2000, 1996, 1992   Add 15.

▶ Application

Follow the directions for the activity.

- A year is a leap year if it is divisible by 4. If the year is a year ending in 00, then it must be divisible by 400 to be a leap year.
- Students work individually.
- Determine if the following years are leap years:

2000 _____   2010 _____   2024 _____

Lesson 2-2

Vocabulary and English Language Development

▶ Activate Prior Knowledge

Complete the table of values for the equations.

1 $y = x - 3$

x	y
−2	
−1	
0	
1	
2	

2 $y = 4x$

x	y
−2	
−1	
0	
1	
2	

3 $y = x + 2$

x	y
−4	
−2	
0	
2	
4	

▶ Definition Review

An **equation** is a mathematical sentence that contains an equal sign.
A **function** is a relationship in which one quantity depends upon another quantity (for every x-value there is exactly one y-value).
A **function table** is a table of ordered pairs that is based on a rule.
A **variable** is a symbol, usually a letter, used to represent a number.

Determine if each table of values represents a function.

4

x	y
1	−4
2	−3
3	−2
4	−1

_____

5

x	y
−1	3
−2	6
−1	0
−2	−3

_____

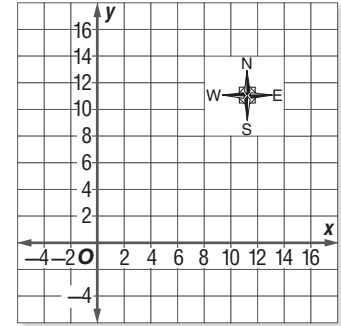## ▶ Application

Follow the directions for the activity.

- Students work with a partner.
- Each student writes a function and creates a function table with only the input values shown.
- Each student gives their function and function table to their partner who must fill in the output values in the table using the given function.
- Return the completed function table to your partner who will check your work.
- If all your output values are correct you get 1 point, if your partner finds an error in your output values he or she gets 1 point.
- Repeat the activity three times. The student with the most points after four rounds is the winner.

Math Triumphs

Lesson 2-3

Vocabulary and English Language Development

▶ Activate Prior Knowledge

Use a coordinate grid to locate and label points.

The city of Philadelphia was laid out in a grid pattern by William Penn and Thomas Holmes. Use a coordinate grid to find locations.

1 Locate and mark the origin. Label it "City Hall." Give its coordinates.

_____

2 Move east 9 blocks from City Hall. Mark the point and label it "Liberty Bell." Give its coordinates.

_____

3 Move south 1 block from Liberty Bell. Mark the point and label it "Independence Hall." Give its coordinates.

_____

4 Move east 3 blocks and north 2 blocks from Independence Hall. Mark the point and label it "Betsy Ross House." Give its coordinates.

_____

5 Move west 2 blocks from Betsy Ross House. Mark the point and label it "U.S. Mint." Give its coordinates.

_____

▶ Definition Review

Match the vocabulary word to its location on the graph.

6 origin _____

7 x-axis _____

8 y-axis _____

9 ordered pair _____

10 coordinate grid _____

▶ Application

Follow the directions to demonstrate plotting a point.

- Work as a class. Clear an area on a tile floor. Use tape to mark the x- and y-axes, and, if needed, to mark the grid lines. An auditorium, a gym, or an outdoor paved area could also be used.
- The teacher writes ordered pairs on the board.
- One at a time, students start at the origin and walk along the grid to the location of a specified ordered pair.
- Repeat until all students have graphed a point.

Lesson 2-4

Vocabulary and English Language Development

▶ Activate Prior Knowledge

Identify the table that corresponds to each equation.

1 $y = x + 2$ _____ **2** $y = 2x$ _____ **3** $y = x - 2$ _____ **4** $y = \dfrac{x}{2}$ _____

Table A	
x	**y**
−2	−4
−1	−3
0	−2
1	−1

Table B	
x	**y**
−4	−2
−2	0
0	2
2	4

Table C	
x	**y**
−2	−4
−1	−2
0	0
1	2

Table D	
x	**y**
−4	−2
−2	−1
0	0
2	1

▶ Definition Review

A **coordinate grid** is a grid in which a horizontal number line and a vertical number line intersect at their zero points.

An **ordered pair** is a pair of numbers that are the coordinates of a point in a coordinate grid, written in the order (horizontal coordinate, vertical coordinate).

Describe how to locate each ordered pair in a coordinate grid.

5 $(3, -2)$

_____

_____

6 $(-5, 4)$
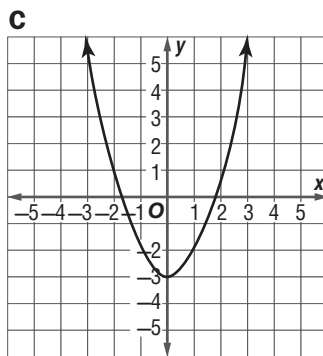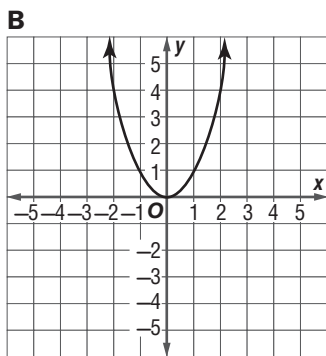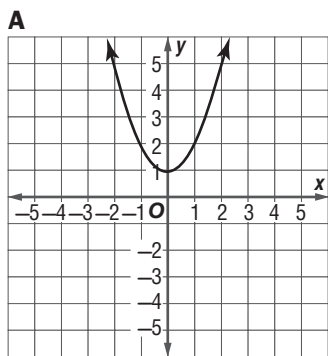
_____

_____

▶ Application

Follow the directions to find the equation.

- Students work in pairs with paper and pencils.
- The first student thinks of an equation (for example: $y = 5x$ or $y = x - 4$) and creates a table for this equation.
- The first student gives the table to the second student, but does not reveal the equation.
- The second student examines the table and writes the equation he or she believes created the table.
- If the correct equation is found, the second student earns 1 point. If the equation is not found, the first student earns 1 point. If it is discovered that the table was incorrectly formed, the second student earns 1 point.
- Reverse roles and continue play until both students have created five equations. The student with the most points wins.

Lesson 2-5

Vocabulary and English Language Development

▶ Activate Prior Knowledge

Match the function to its graph.

A

B

C

D

1 $y = x^2$ _____

2 $y = x^2 + 1$ _____

3 $y = x^2 + 2$ _____

4 $y = x^2 - 3$ _____

▶ Definition Review

A **function** is a relationship in which one quantity depends upon another.
A **function table** is a table of ordered pairs that is based on a rule.
A **linear function** is a function whose graph is a straight line.
A **nonlinear function** is a function whose graph is not a straight line.

Refer to the functions and graphs in Exercises 1–4.

5 How can you tell from the functions that they are not linear?

_____

6 How can you tell from the graphs that the functions are nonlinear?

_____

▶ Application

Follow the directions to explore nonlinear function graphs of the form $y = ax^2$.

- Students work in groups of 3 or 4.
- Each student writes a different function of the form $y = ax^2$, using a different integer between 1 and 10 for a.
- Each student creates and completes a function table for his/her function with values -2, -1, 0, 1, and 2 for x.
- Each student graphs his or her function.
- Compare graphs. Discuss similarities and differences.
- Repeat exercise using integers between -10 and -1 for a.

Lesson
3-1 Vocabulary and English Language Development

▶ Activate Prior Knowledge

Find each sum, difference, product, or quotient.

1 $-3 + 7 =$ _____

2 $5 + (-8) =$ _____

3 $6 - 8 =$ _____

4 $-3 - 2 =$ _____

5 $-4 \cdot (-5) =$ _____

6 $-9 \cdot 8 =$ _____

7 $30 \div (-6) =$ _____

8 $-24 \div (-4) =$ _____

▶ Definition Review

In a power, the **base** is the number used as a factor.
In a power, the **exponent** is the number of times the base is used as a factor.
The **order of operations** are the rules that tell which operation to perform first when more than one operation is used.

9 Use 1st, 2nd, 3rd, and 4th to put the steps in the correct order.

_____ Multiply and divide in order from left to right.

_____ Find the value within grouping symbols (parentheses).

_____ Add and subtract in order from left to right.

_____ Simplify terms with exponents.

▶ Application

• Work in pairs. Each student needs five index cards.
• Each student does the following on his or her index cards. On one side of each index card, write a numerical expression using four numbers from 1 to 20, three operation symbols, and at most one pair of grouping symbols and one exponent. Then calculate the value of the expression and write the value on the other side of the card. If the value is *not* a whole number, change your expression until a whole number value is obtained.
• Stack your five completed index cards with the expressions facing up. Trade your stack of cards with your partner, being sure to keep them with the expressions facing up.
• Calculate the value of the expression on each card, and record your values on a piece of paper. Compare your results to the values written on the back of the cards you received.
• If your value does not match the one on the back of the card, work with your partner to determine the correct value.

Lesson 3-2 Vocabulary and English Language Development

▶ Activate Prior Knowledge

Circle the activities that need to be done in a specific order.

1 drive a mile and turn on the radio

2 read a book and write a book report

3 put on the left shoe and put on the right shoe

4 open the garage door and drive the car out of the garage

5 mix the ingredients and bake a cake

▶ Definition Review

Find the correct word(s) to complete each statement.

6 To find the value of an algebraic expression by replacing variables with numbers is called _____ the expression.

7 A(n) _____ is a combination of numbers, variables, and at least one operation.

Find the value of each expression.

8 $12 + 8 \div 2$ _____

9 $5 \cdot 8 + 3$ _____

10 $2 + 7 \cdot 4$ _____

11 $9 \div 3 - 1 + 6$ _____

▶ Application

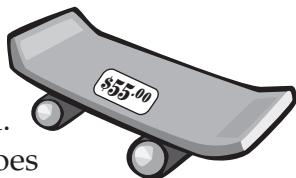**Follow the directions for the activity.**

- Students solve the following problems using the order of operations.
  1. $30 - 10 \div 2 + 14 - 3 \times 2$
  2. $7 \cdot 6 + 9 \div 3 + 10$
  3. $14 + 21 \div 7 + 8 \cdot 5$
- Students go back and solve the problems from left to right regardless of the order of operation rules.
- What are the solutions for each method?
- Did the solutions differ?
- Discuss the importance of the order of operations.

Math Triumphs

Vocabulary and English Language Development

▶ Activate Prior Knowledge

Solve.

1 **SAVINGS** Felipe has $12 and wants to buy a skateboard. How much more does Felipe need to save? _____

$55.00

2 **SNACKS** Millie bought 3 of the same granola bar. The total cost was $1.95. Write the price of each granola bar on the price tags.

Oats n Honey **Granola Bar**   Oats n Honey **Granola Bar**   Oats n Honey **Granola Bar**

▶ Definition Review

Find the correct word(s) to complete each statement.

3 A combination of variables, numbers, and at least one operation is

called a(n) _____.

4 A(n) _____ is a mathematical sentence that contains an equals sign.

▶ Application

Solve.

- Find the value of y in each equation.
- Use the key to determine what letters the different values of y represent.
- Write the letter that y represents above the question number.
- Use the key to answer the following question.

What area of math deals with representing numbers with letters and solving for the unknown?

_____   _____   _____   _____   _____   _____   _____
  5   3   1   6   2   4   5

KEY:

A = 50	B = 16	C = 24	E = 82	F = 21	G = 28	I = 32	L = 25
M = 41	O = 85	R = 22	T = 13	V = 61	W = 35	Y = 10	Z = 17

5 $36 - y = 8$ $y =$ _____

6 $\dfrac{y}{4} = 4$ $y =$ _____

7 $\dfrac{y}{5} = 5$ $y =$ _____

8 $y + 20 = 42$ $y =$ _____

9 $5 \cdot y = 250$ $y =$ _____

10 $y - 80 = 2$ $y =$ _____

Lesson 3-4 Vocabulary and English Language Development

▶ Activate Prior Knowledge

Find the value of each expression.

1 $8 - 12 \div 3 + (6 \cdot 3 + 1)$ _____

2 $6 \cdot 7 + (4 - 3) \cdot 8$ _____

3 $20 + (7 - 3) - 8 \cdot 2$ _____

4 $44 \div 4 + 9 \cdot 2^2 - 15$ _____

Name the step that should be performed first in each expression.

5 $50 - 20 \div 2 + (6 + 1)$ _____

6 $4^2 \cdot 3 + 4 - 3 \cdot 8$ _____

7 $35 \cdot 4 \div 5 + (8 - 3 + 2) - 12 \cdot 2$ _____

8 $10 \cdot 6 + 9 \cdot 2 - 15 + 3$ _____

▶ Definition Review

Area is the number of square units needed to cover the surface enclosed by a geometric figure.

An **equation** is a mathematical sentence that contains an equals sign.

A **formula** is an equation that shows a relationship among certain quantities.

A **variable** is a symbol, usually a letter, used to represent a number.

9 What formula should be used to find the length of the rectangle at the right? _____

10 The area of the rectangle is 36 square meters. Find the length of the rectangle. _____

Width = 6 m

Area = 36 m²

▶ Application

Follow the directions for the activity.

- Students work with a partner.
- Each student creates six problems for their partner.
- Each problem must show a gridded rectangle like the one shown for Exercises 9 and 10. On two of the rectangles, give the area and the length; your partner must find the width. On two other rectangles, give the area and the width; your partner must find the length. On the last two rectangles, give the length and width; your partner must find the area.
- Exchange your six problems with your partner and solve the problems you receive. Return the completed problems to your partner. Check each other's work.
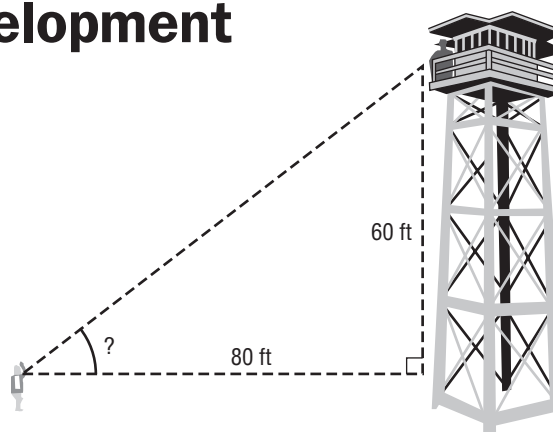
Lesson 4-1

Vocabulary and English Language Development

▶ Activate Prior Knowledge

Use a scale drawing to find an angle.

Stanley is waving at his brother in the fire tower. He is 80 feet away from the tower and his brother is standing 60 feet above him. Find the angle at which Stanley must look upward to see his brother.

60 ft

? 80 ft

1 Make a scale drawing on the back of this sheet. Let 10 feet in the problem equal 1 inch in the drawing. Use a ruler to draw a line segment 8 inches long. At the right endpoint of the segment, use a protractor to draw a right angle. Extend the vertical part of the right angle 6 inches. Connect the endpoints and form a triangle. This triangle is similar to the one in the problem and will have the same angle measures.

2 Use a protractor to measure the angle indicated. At what angle must Stanley look upward to see his brother in the fire tower? _____

▶ Definition Review

Complete each sentence by filling in the blanks.

3 A(n) _____ is formed by two rays with the same _____.

4 Angles are measured in _____. A(n) _____ can be used to make this measurement.

5 A(n) _____ is the common endpoint of the two rays that form an angle.

6 A part of a line that has one endpoint and extends indefinitely in one direction is called a(n) _____.

▶ Application

Follow the directions to estimate angle measures.

- Students play in groups of 3 or 4. Each student needs a piece of paper, a ruler, a pencil, and a protractor.
- The first student names an angle measure between 0° and 180°.
- Each student draws an angle estimated to have the given measure.
- Then students measure their angles with protractors.
- The student whose angle is closest to the actual measure wins the round.
- Repeat the game until all students have named an angle measure.

Lesson 4-2 Vocabulary and English Language Development

▶ Activate Prior Knowledge

Determine if each of the following triangles can be drawn. If it can, draw an example.

1 an equilateral, obtuse triangle

_____

2 an equilateral, right triangle

_____

3 a scalene, right triangle

_____

4 an obtuse, right triangle

_____

▶ Definition Review

An **acute angle** is an angle with a measure greater than 0° and less than 90°.
Line segments that have the same length or angles that have the same measure are **congruent**.
An **obtuse angle** is an angle with a measure greater than 90° but less than 180°.
A **right angle** is an angle that measures 90°.
A **side** is a ray that is part of an angle.
A **triangle** is a polygon with three sides and three angles.

Complete each statement.

5 A triangle with all three angles less than 90° is a(n) _____ triangle.

6 A triangle with three congruent sides is a(n) _____ triangle.

7 A triangle with no congruent sides is a(n) _____ triangle.

8 A triangle with at least two sides of the same length is a(n) _____ triangle.

▶ Application

- Pick a partner. Sketch a triangle.
- Ask your partner to identify the triangle as equilateral, isosceles, or scalene. Then identify the triangle as right, acute, or obtuse.
- Your partner sketches a triangle, and you identify the triangle by its sides and by its angles.
- Continue drawing different triangles and identifying them by sides and angles.
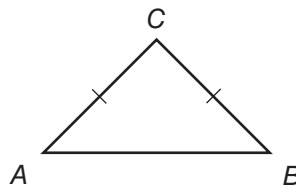
Lesson 4-3

Vocabulary and English Language Development

▶ Activate Prior Knowledge

1 Measure each angle of the right, isosceles triangle.

$m\angle A =$ _____

$m\angle B =$ _____

$m\angle C =$ _____

2 What do you notice about $m\angle A$ and $m\angle B$ in Exercise 1? _____

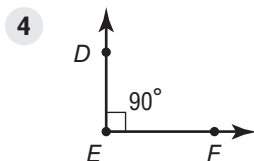**3** Explain how the angle measures in Exercise 1 could be found without using a protractor to measure the angles.

_____

_____

_____

▶ Definition Review

A **right angle** is an angle that measures 90°.
A **straight angle** is an angle that measures 180°.
The measures of two **supplementary angles** have a sum of 180°.
The measures of two **complementary angles** have a sum of 90°.

4

$\angle E$ is a _____ angle.

$\angle E$ measures _____.

5

$\angle GHJ$ and $\angle JHI$ are _____ angles.

They have a sum of _____.

$\angle GHI$ is a _____ angle.

▶ Application

Follow the directions for the activity.

- Work in pairs.
- One student draws an acute triangle on paper and cuts it out.
- The other student tears off all three corners of the triangle.
- Place the corners together to form a line. Tape the corners in place.
- Discuss the number of degrees in a straight line, and how this relates to a triangle.
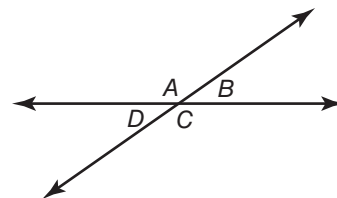- Repeat the steps with an obtuse triangle and a right triangle.

Math Triumphs

Lesson 4-4 Vocabulary and English Language Development

▶ Activate Prior Knowledge

1 Measure each angle of the intersecting lines.

$m\angle A = 145°$ $\qquad$ $m\angle B =$ _____

$m\angle C =$ _____ $\qquad$ $m\angle D =$ _____

2 What do you notice about $m\angle A$ and $m\angle C$? _____

3 What do you notice about $m\angle B$ and $m\angle D$? _____

4 What is the sum of the measures of $\angle B$ and $\angle C$? _____

▶ Definition Review

Alternate exterior angles are exterior angles that lie on opposite sides of the transversal.

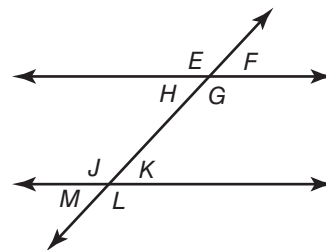**Alternate interior angles** are interior angles that lie on opposite sides of the transversal.

Corresponding angles are angles that have the same position on two different parallel lines cut by a transversal.

Vertical angles are nonadjacent angles formed by a pair of lines that intersect.

5 Name two pairs of alternate interior angles.

_____

6 Name two pairs of alternate exterior angles.

_____

7 What type of angles are $\angle J$ and $\angle L$? _____

▶ Application

Follow the directions for the activity.

- Work in groups of three. Use masking tape to create two parallel lines and a transversal on the floor.
- One student tells the other two to locate a pair of vertical angles. The two students stand in the interiors of a pair of angles to indicate their selection.
- The student then tells the other two to locate a pair of corresponding angles, a pair of alternate interior angles, and a pair of alternate exterior angles.
- Repeat the activity so that each student has been the person instructing the other two students to locate each of the four pairs of angles.

Math Triumphs

Lesson 5-1 Vocabulary and English Language Development

▶ Activate Prior Knowledge

1   Write a list of the names of your family members.

_____

2   Write a ratio of males to females in your family. _____

3   Write your ratio for Exercise 2 in simplest form. _____

▶ Definition Review

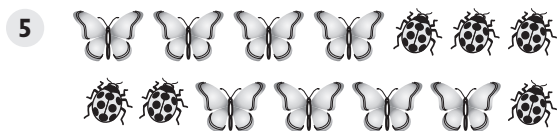The **greatest common factor** is the greatest of the common factors of two or more numbers.
A **ratio** is a comparison of two numbers by division.
A fraction is in **simplest form** when the greatest common factor of the numerator and the denominator is one.

Match each group with the correct ratio.

4   🐞🐞 🦋🦋🦋🦋🦋   The ratio of ladybugs to butterflies is 3 to 4.

5   🦋🦋🦋🦋🐞🐞🐞   The ratio of ladybugs to butterflies is 2 to 5.
        🐞🐞🦋🦋🦋🦋🐞

Write the ratio as a fraction in simplest form.

6 $\dfrac{8}{10}$ _____   **7** $\dfrac{3}{9}$ _____   **8** $\dfrac{7}{14}$ _____   **9** $\dfrac{20}{24}$ _____

▶ Application

Finding Ratios

- Students work individually.
- Students observe their classmates to find the following ratios:
  - The ratio of girls to boys in the class.
  - The ratio of boys to the total number of students in the class.
  - The ratio of students wearing red to students wearing blue.
  - The ratio of students with blond hair to students with black hair.
  - The ratio of students who do not have brown hair to the total number of students in the class.

Lesson 5-2 Vocabulary and English Language Development

▶ Activate Prior Knowledge

Circle the product with the lower unit cost in each group.

1

Parmesan Cheese $3.99 Made from real cheese 6 oz.

Parmesan Cheese $2.48 Made from real cheese 4 oz.

2

$2.50 Veggie Juice 46 ounces

$1.45 Veggie Juice 36 ounces

▶ Definition Review

A **rate** is a ratio comparing two quantities with different kinds of units.
A **ratio** is a comparison of two numbers by division.
Unit cost is the cost of a single item or unit.
A **unit rate** is a rate that has a denominator of 1.

Draw a line to match each rate to its unit rate.

3   18 miles in 3 hours   20 miles per hour

4   64 miles in 4 hours   60 miles per hour

5   300 miles in 15 hours   6 miles per hour

6   120 miles in 2 hours   16 miles per hour

Find each unit rate. Use the unit rate to find the unknown amount.

7   10 pages in 50 minutes; ☐ pages in 150 minutes _____

8 $75 for 3 hours; ☐ for 18 hours _____

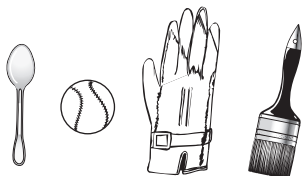## ▶ Application

Complete the graphic organizer.

Ratio	Rate
Examples	Examples
Unit Rate	**Unit Cost**
Examples	Examples

Lesson 5-3

Vocabulary and English Language Development

▶ Activate Prior Knowledge

Complete the analogies.

1 Sock is to foot as _____ is to hand.

2 Car is to driver as _____ is to pilot.

▶ Definition Review

In a proportion, a **cross product** is the product of the numerator of one ratio and the denominator of the other ratio.

A **proportion** is an equation stating that two ratios are equivalent.

A **ratio** is a comparison of two quantities by division.

Determine whether the ratios are proportional. Write = or ≠ in each circle.

3 $\frac{3}{7} \bigcirc \frac{4}{8}$

4 $\frac{4}{6} \bigcirc \frac{20}{30}$

Match each proportion with its solution.

A $n = 21$ **B** $n = 4$ **C** $n = 1$ **D** $n = 6$

5 $\frac{2}{3} = \frac{4}{n}$ _____

6 $\frac{7}{8} = \frac{n}{24}$ _____

7 $\frac{n}{4} = \frac{2}{8}$ _____

8 $\frac{3}{n} = \frac{15}{20}$ _____

▶ Application

Follow the directions for the activity.

- Organize the class into groups of 4 to 5 students.
- Have each group create a fraction by rolling a number cube twice, picking two numbers out of a bag, or just choosing two numbers.
- Instruct each student to write a new fraction that is proportional to the fraction the group created.
- Have the students compare their fractions within their group.
- Are all the fractions within the group proportional?
- Have the groups repeat the process with new fractions as time allows.

Math Triumphs

Lesson
5-4 Vocabulary and
English Language Development

▶ Activate Prior Knowledge

Solve each proportion.

1 $\dfrac{3}{n} = \dfrac{6}{8}$ $n =$ _____

2 $\dfrac{6}{8} = \dfrac{12}{r}$ $r =$ _____

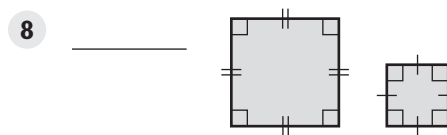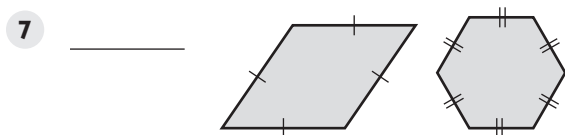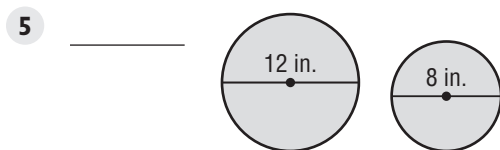**3** $\dfrac{4}{7} = \dfrac{p}{49}$ $p =$ _____

4 $\dfrac{t}{15} = \dfrac{18}{27}$ $t =$ _____

▶ Definition Review

A **proportion** is an equation stating that two ratios or rates are equivalent.
Similar figures are figures that have the same shape but may have
different sizes.

Determine whether the shapes are similar.

5 _____

12 in.   8 in.

6 _____

12 in.   8 in.

7 _____

8 _____

Use a proportion to solve each problem.

9 Tara can bike 7 miles in 30 minutes. How long will it take her to
bike 28 miles?   _____

10 Jason bought 5 pounds of ground beef for $7.95. How much will
8 pounds of ground beef cost?   _____

▶ Application

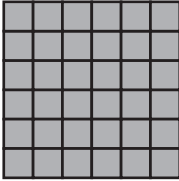**Follow the directions for the activity.**

- Organize the class so each person has a partner.
- Each partner creates 3 sets of figures that are either similar or not similar.
- Have partners exchange papers. Each partner determines if the figures
  are similar or not similar and explains why.
- Return the papers and have each partner check the answers.
- Each student gives a "thumbs up" if the figures are similar or a "thumbs
  down" if the figures are not similar.

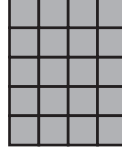**Lesson 6-1**

Vocabulary and English Language Development

▶ Activate Prior Knowledge

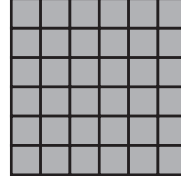**Determine whether each figure is a square or a rectangle.**

1 _____

2 _____

3 _____

4 _____

▶ Definition Review

Identify the *base* and the *exponent* of each expression.

5 7^5 base: _____
exponent: _____

6 8^4 base: _____
exponent: _____

7 10^6 base: _____
exponent: _____

8 3^9 base: _____
exponent: _____

9 5^3 base: _____
exponent: _____

10 2^7 base: _____
exponent: _____

▶ Application

Follow the directions for the activity.

- Draw a 3-inch by 3-inch square. Tell what expression is modeled.
- Divide the square into 1-inch squares.
- Count the small squares. What expression is modeled now?
- Repeat this activity for a 2-inch by 2-inch square.

Chapter 6

Lesson 6-2

Vocabulary and English Language Development

▶ Activate Prior Knowledge

Evaluate each expression.

1 4^2

_____

2 9^2

_____

3 15^2

_____

4 11^2

_____

5 1^2

_____

6 13^2

_____

▶ Definition Review

One of two equal factors of a number is called the **square root**.

The symbol used to indicate a nonnegative square root is called a **radical sign**.

Inverse operations are operations which undo each other.

7 Find the positive square root of 16. _____

8 What operation is the inverse of taking the square root of

a number? _____

9 Draw a radical sign. _____

▶ Application

Follow the directions for the activity.

- Write 5 positive numbers.
- Find the square of each number.
- Then find the positive square root of each of your answers.
- Explain your results.

Chapter 6

Math Triumphs

Lesson 6-3

Vocabulary and English Language Development

▶ Activate Prior Knowledge

1 Round 28 to the nearest ten. _____

2 Round 225 to the nearest hundred. _____

3 Round 12.87 to the nearest tenth. _____

Write a whole number in the blank to make a true statement.

4 $12 <$ _____ < 16

5 $25 <$ _____ < 28

Find each value.

6 3^2

_____

7 $\sqrt{16} =$ _____

▶ Definition Review

A number close to an exact value is an **estimate**.

One of two equal factors of a number is the **square root** of the number.

8 Choose a reasonable estimate for $\sqrt{10}$.   3.1 or 3.8

9 Choose a reasonable estimate for $\sqrt{63}$.   7.2 or 7.9

▶ Application

Follow the directions for the activity.

- Students work in groups of 3. Each group needs a calculator.
- One student states a positive number between 0 and 200 whose square root is not a whole number, such as 14. This student finds the decimal approximation on the calculator, but does not show it to the other two students.
- The other two students each try to estimate the number to the nearest tenth.
- After they state their estimates, the student with the calculator then tells the value to the nearest tenth and the student who was closer gets one point.
- Rotate the calculator so that all students have an equal number of times at each role.
- The student with the greatest number of points wins.

Chapter 6

Math Triumphs

Lesson 6-4 Vocabulary and English Language Development

▶ Activate Prior Knowledge

Evaluate each expression.

1 $\sqrt{49} =$ _____

2 $6^2 =$ _____

3 $9^2 =$ _____

4 $\sqrt{16} =$ _____

▶ Definition Review

The **square root** of a number is one of two equal factors of the number.
The **square of a number** is the product of the number multiplied by itself.
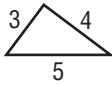
5 For a right triangle, $c^2 =$ _____

Complete each sentence using the words *square* or *square root*.
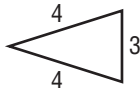
6 8 is the _____ of 64.

7 25 is the _____ of 5.

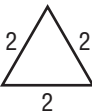**Determine whether or not the triangles are right triangles.**

8 [triangle with sides 3, 4, 5]

_____ + _____ ◯ _____   _____

9 [triangle with sides 4, 3, 4]

_____ + _____ ◯ _____   _____

10 [triangle with sides 2, 2, 2]

_____ + _____ ◯ _____   _____

11 [triangle with sides 10, 6, 8]

_____ + _____ ◯ _____   _____

▶ Application

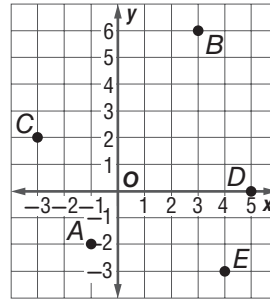**Follow the directions for the activity.**

- Cut out a rectangle with a height of 3 inches and a width of 4 inches.
- Then cut the rectangles in half on the diagonal.
- Use the Pythagorean Theorem to find the length of the hypotenuse.
- Measure the hypotenuse of the triangle.
- Does the measurement match the calculation?
- Repeat the activity with a 5 cm by 12 cm rectangle.

Math Triumphs

Chapter 6

Lesson 6-5 Vocabulary and English Language Development

▶ Activate Prior Knowledge

Name the ordered pair for each point.

1   A _____

2   B _____

3   C _____

4   D _____

5   E _____

▶ Definition Review

A **coordinate grid** is a grid in which a horizontal number line and a vertical number line intersect at their zero points.

Slope is the ratio of vertical change to horizontal change. It is the rate of change between any two points on a line.

6   For $(3, -2)$, the x-coordinate is _____ and the y-coordinate is _____.

7   Find the slope of a line if the rise is $+6$ units and the run is $+5$ units. _____

8   Find the slope of a line if the rise is -3 units and the run is $+2$ units. _____

▶ Application

Form a human line.

- Clear the area on a floor with square tiles or use masking tape to form a grid on the floor.
- One student chooses a slope. Students arrange themselves on the grid so that they are points on a line with that slope.
- Another student chooses a different slope. Students rearrange themselves as needed.
- Repeat for several slopes. Use both positive and negative slopes. Use both fractional and whole number slopes as well.
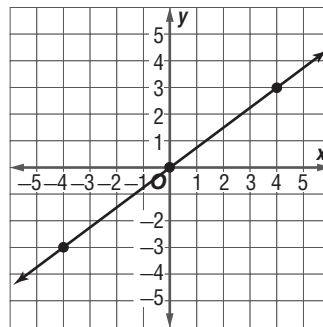
Chapter 6

Math Triumphs

Lesson 6-6

Vocabulary and English Language Development

▶ Activate Prior Knowledge

Find the slope.

1 What is the rise? _____

2 What is the run? _____

3 What is the slope of the line? _____

▶ Definition Review

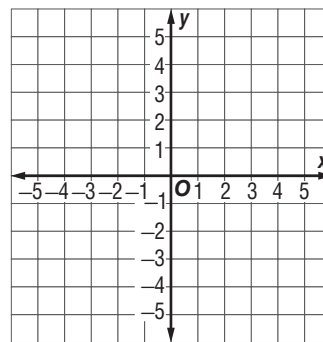**Slope** is the rate of change between any two points on a line.

Complete the following.

4 Give the slope formula. _____

5 Explain how to find the slope using the terms "vertical" and "horizontal."

_____

▶ Application

Follow the directions for the activity.

- Draw a line on the coordinate grid.
- Find two points on your line.
- Calculate the slope of the line using these two points and the slope formula.
- Repeat this activity for three other lines.

Chapter 6

Math Triumphs

Lesson 7-1 Vocabulary and English Language Development

▶ Activate Prior Knowledge

Name a common feature by which each of the items could be sorted.

1 chair: _____

2 pizza: _____

3 swimming pool: _____

4 shoe: _____

▶ Definition Review

To **sort** is to put together items that have something in common.

A **Venn diagram** is a diagram that uses circles to display items of different sets.

Name a category by which each group could be sorted.

5 cats, dogs, hamsters, Guinea pigs _____

6 maple, oak, pine, birch _____

7 2, 4, 10, 16, 20 _____

8 ham, turkey, tuna, cheese _____

▶ Application

Follow the directions for the activity.

- Work individually. Each student needs two number cubes.
- Students roll both of the number cubes 8 times.
- For each roll, record the product of the two numbers rolled.
- Students then sort and classify the products as Multiples of 3, Multiples of 5, and Neither.
- Draw a Venn diagram to show the results of sorting the numbers.
- Repeat the exercise, sorting the numbers into two different groups.

Lesson 7-2

Vocabulary and English Language Development

▶ Activate Prior Knowledge

1 Arrange the following numbers in order from least to greatest.

$$11, 5, 3, 20, 2$$

_____

2 Which of the following numbers appears most often in the list?

$$0, 0, 2, 2, 4, 7, 7, 7, 9$$

_____

3 In the following list of numbers, which number is located in the middle of the list?

$$0, 1, 2, 5, 9$$

_____

▶ Definition Review

The **mode** is the number(s) or item(s) that appear most often in a set of data.

The difference between the greatest number and the least number in a set of data is the **range**.

The middle number in a set of data when the data are arranged in numerical order is the **median**.

4 Write a set of data with a mode of 2. _____, _____, _____, _____, _____

5 Write a set of data with a range of 5. _____, _____, _____, _____, _____

6 Write a set of data with a median of 5. _____, _____, _____, _____, _____

▶ Application

Follow the directions for the activity.

- Work in pairs.
- List 5 numbers where two of them are the same.
- Exchange numbers with your partner.
- Find the mode, median, and range of the numbers your partner wrote.
- Check your partner's answers.
- Repeat this activity three times using different numbers.

Math Triumphs

Lesson 7-3 Vocabulary and English Language Development

▶ Activate Prior Knowledge

Find the mode, median, and range of each data set.

1 The number of houses on different streets in a neighborhood.

6, 5, 2, 10, 9, 10, 4, 8, 7

mode: _____   median: _____   range: _____

2 The number of letters in the mail each day for five days.

5, 2, 0, 3, 5

mode: _____   median: _____   range: _____

▶ Definition Review

Fill in the blanks.

3 The _____ of a data set is the sum of the numbers in the set divided by the number of pieces of data.

4 A(n) _____ is a value that is much higher or much lower than the other values of a set of data.

5 Write a set of data with five numbers so that there is one outlier that is much higher than the other values. _____

6 Write a set of data with five numbers so that there is one outlier that is much lower than the other values. _____
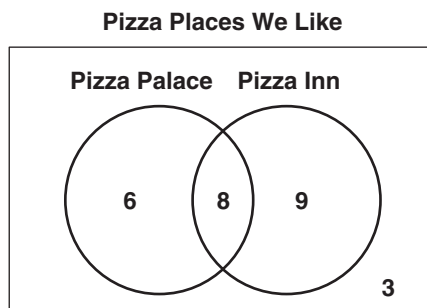
▶ Application

Follow the directions for the activity.

- Students work in groups of 4 to 6. Each group should have a jar or bag of small identical items, like beans or pasta pieces.
- Each group member takes any number of items from the bag or jar. Each group member should lay their pieces in a pile in front of them.
- As a group, estimate the mean number of pieces a student took. Then find the mean by finding the sum of all the pieces and dividing by the number of piles. Confirm your answer by dividing the pieces into equal groups.
- Repeat this activity by taking a different number of pieces than before.

Math Triumphs

Lesson 7-4

Vocabulary and English Language Development

▶ Activate Prior Knowledge

Pizza Places We Like

Pizza Palace   Pizza Inn

6   8   9

3

Use the Venn diagram to complete Exercises 1–4.

1 How many students like Pizza Inn?

_____

2 How many students like Pizza Palace?

_____

3 How many students like both Pizza Palace and Pizza Inn?

_____

4 How many students do not like either?

_____

▶ Definition Review

Write the letter of the definition that matches each term.

5 bar graph _____

6 horizontal axis _____

7 interval _____

8 scale _____

9 vertical axis _____

A The set of all possible values in a given measurement, separated by the intervals used.

B The axis on which the scale and interval are shown in a bar or line graph.

C A graph using bars to compare quantities.

D The axis on which the categories or values are shown in a bar or line graph.

E The difference between successive values on a scale.

▶ Application

Follow the directions for the activity.

- Bring to class an example of a bar graph found in a newspaper or in a magazine.
- Identify the title, categories, scale, and intervals on the graph.
- Write 3 questions about the data on your bar graph.
- Exchange your graph with that of a partner and answer the questions your partner wrote about his or her bar graph.
- Switch graphs with another pair of students and repeat the activity.
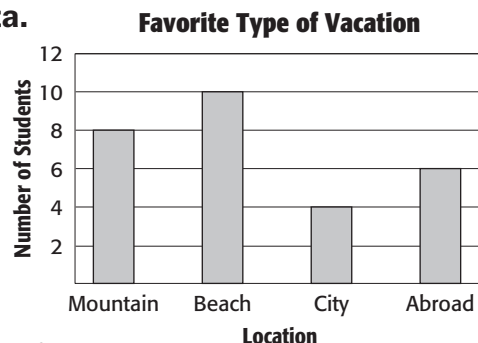
Lesson 7-5

Vocabulary and English Language Development

▶ Activate Prior Knowledge

Use the bar graph "Favorite Type of Vacation" to compare data.

Favorite Type of Vacation

1 How many more students prefer a beach vacation than one in the mountains?

_____

2 What location is preferred by 8 students?

_____

3 What two locations were chosen as often as a beach vacation?

_____

▶ Definition Review

Fill in the blanks.

4 The set of all possible values in a given measurement, including the least and greatest numbers in the set, separated by the intervals used is called the _____.

5 The axis on which the scale and interval are shown is the _____ axis while the axis on which the categories or values are shown is the _____ axis.

6 A graph using bars to compare quantities is called a _____.

7 The difference between successive values on a scale is called the _____.

▶ Application

Follow the directions for the activity.

- Work in groups of 2 or 3.
- Ask students in other groups what their favorite something is. For example: favorite type of fruit, favorite animal, favorite type of music.
- Make a bar graph to display your data.
- As a group, present your graph to the rest of the class. Discuss your findings as well as how you chose to make your graph, including the title, categories, scale, and intervals.

Math Triumphs

Lesson 7-6 Vocabulary and English Language Development
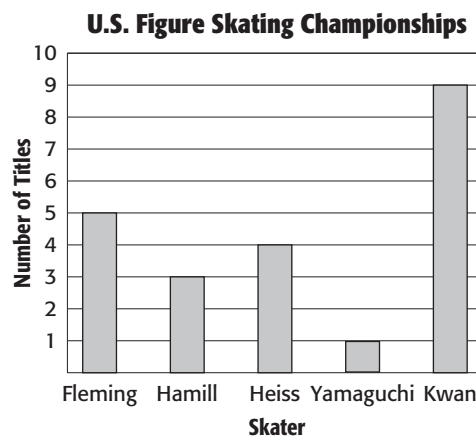
▶ Activate Prior Knowledge

Use the bar graph to answer the questions.

1 How many titles did Kwan win?

_____

2 How many more titles did Fleming win than Yamaguchi?

_____

3 How many titles did Hamill and Heiss win together?

_____

4 How many titles did all five skaters win together?

_____

U.S. Figure Skating Championships

(Bar graph: Number of Titles vs. Skater — Fleming 5, Hamill 3, Heiss 4, Yamaguchi 1, Kwan 9)

▶ Definition Review

A **line graph** is a graph used to show how a set of data changes over a period of time.

Circle yes if the data is best represented by a line graph.

5 The enrollment of a school every year from 2000 to 2008.   yes   no

6 The number of each type of animal on a farm.   yes   no

7 The outside temperature every hour from midnight to noon.   yes   no

▶ Application

Follow the directions for the activity.

- Work in pairs.
- Determine something you can keep track of in the classroom every minute for 10 minutes, such as the number of students who walk past the classroom door, or the number of cars that drive by.
- After recording the data, work with your partner to make a line graph of the data.
- Share your line graph with the rest of the class. Discuss why you chose the interval, scale, and title that you did. Discuss the general trend of the graph, if there is one.

Lesson 7-7

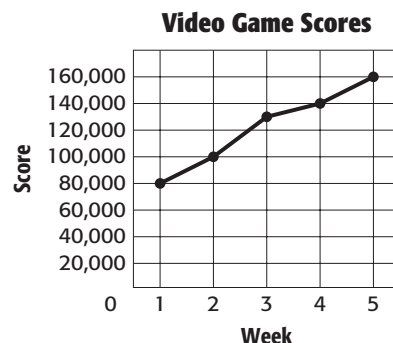# Vocabulary and English Language Development

▶ Activate Prior Knowledge

Use the line graph "Video Game Scores" to compare data.

1 Describe how Mario's score changed from week 1 to week 5.

_____

Video Game Scores

2 Between which two consecutive weeks did his score improve the most?

_____

3 What is the trend of the data?

_____

▶ Definition Review

Fill in the blanks.

4 The axis on which the categories or values are shown is the

_____.

5 The difference between successive values on a

_____ is called the _____.

6 A _____ is used to show how a set of data changes over a period of time.

▶ Application

Follow the directions for the activity.

- Choose a company listed on the N.Y. Stock Exchange in the newspaper.
- Record the price of your stock every day for a week.
- Draw and label a line graph with this data.
- Discuss the graph you drew with your classmates.
- Find the change in price of your stock from the beginning of the week to the end.
- Find whose stock increased in value the most during the week and whose stock lost the most.
- Find whose stock had a noticeable trend (increasing or decreasing), whose has little to no change, and whose had both ups and downs during the week.

Lesson 8-1

Vocabulary and English Language Development

▶ Activate Prior Knowledge

Complete each sentence.

The word "percent" is made from two parts: "per-" which means "out of" or "for every," and "-cent," which means "hundred." What other words do you know that uses "cent" to mean "hundred"?

1 There are 100 years in a _____.

2 There are 100 _____ in one dollar.

3 There are 100 _____ in one meter.

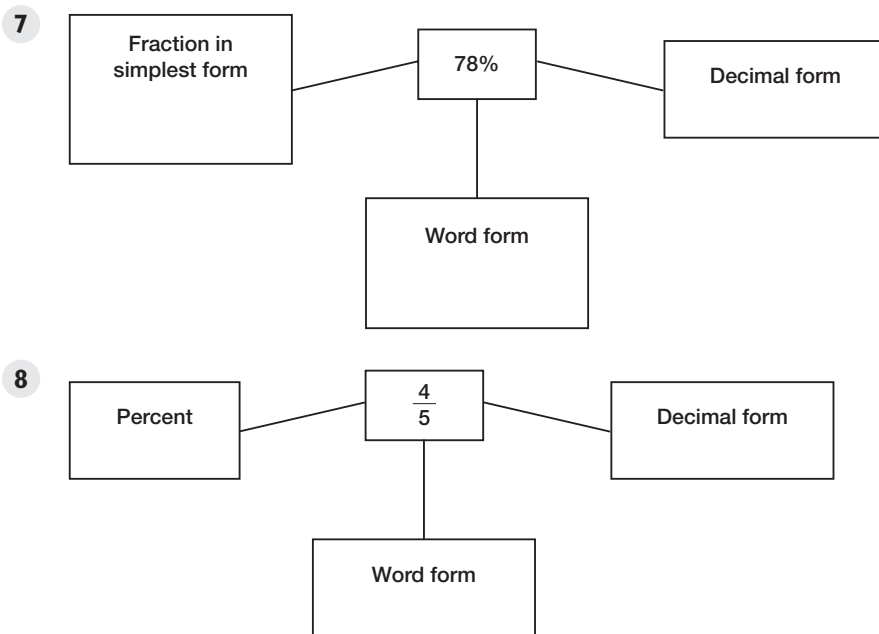## ▶ Definition Review

Use the following words to complete each sentence.

equivalent fractions   ratio   percent

4 A(n) _____ is a ratio that compares a number to 100.

5 A comparison of two numbers by division is a _____.

6 Fractions that name the same number are _____.

▶ Application

Complete each web.

7

| Fraction in simplest form | — | 78% | — | Decimal form |

Word form

8

| Percent | — | $\frac{4}{5}$ | — | Decimal form |

Word form

Chapter 8

Lesson 8-2

Vocabulary and English Language Development

▶ Activate Prior Knowledge

1 A circle is a figure made of _____ degrees.

2 A unit fraction has a numerator of _____.

3 What unit fraction is equivalent to 20%?

_____

4 What unit fraction is equivalent to 5%?

_____

▶ Definition Review

Use the following words to complete each sentence.

degree   percent   sector   simplest form   denominator

5 The bottom number in a fraction is the _____; it represents the number of parts in the whole.

6 A(n) _____ is a pie-shaped section in a circle graph.

7 The most common unit of measure for an angle is a(n) _____.

8 When the greatest common factor (GCF) of the numerator and denominator of a fraction is 1, the fraction is in _____.

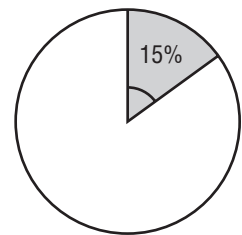**9** A ratio that compares a number to 100 is a(n) _____.

▶ Application

Follow these steps to find the degrees needed to show a 15% sector in a circle graph.

• Write 15% as a fraction in simplest form. _____

• Multiply 360° by the fraction. $\dfrac{\boxed{}}{\boxed{}} \cdot \dfrac{\boxed{}}{\boxed{}} = \dfrac{\boxed{}}{\boxed{}} = $ _____

• A 15% sector of a circle graph will have a measure of _____ degrees.

Chapter 8

Math Triumphs

Lesson 8-3

Vocabulary and English Language Development

▶ Activate Prior Knowledge

There are 50 cars in the parking lot of a department store. Of these cars, 15 are black, 20 are white, 10 are blue, and 5 are red.

1 What fraction of the cars are black?

_____

2 What fraction of the cars are white?

_____

3 What percent of the cars are red?

_____

4 What percent of the cars are blue?

_____

▶ Definition Review

Use the following words to complete each sentence.

data   circle graph   degree   percent   sector

5 The most common unit of measure for angles is the _____.

6 A pie-shaped section of a circle graph is called a _____.

7 Information, often numerical, which is gathered for statistical purposes, is called _____.

8 A graph used to compare parts of a whole is called a _____.

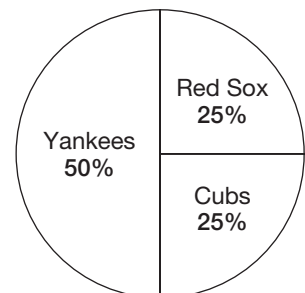**9** A ratio that compares a number to 100 is a _____.

▶ Application

The circle graph shows the results of a survey about 8th graders' favorite baseball teams. Use the circle graph to answer the questions below.

Favorite Baseball Team

- What is the title of the graph?

  _____

- What fraction of students named the Cubs? _____
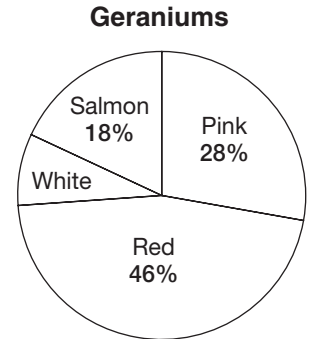
- What fraction of students named the Yankees? _____

Chapter 8

Math Triumphs

Vocabulary and English Language Development

▶ Activate Prior Knowledge

SCOUTING A scout troop sold 300 geraniums as a fundraiser for their annual jamboree trip. The circle graph shows the percentages of each color.

Geraniums

Salmon 18% | Pink 28% | White | Red 46%

1 What is the title of the graph?

_____

2 When Samuel drew the graph, he forgot to include the percentage for white. What percent of the geraniums sold were white?

_____

3 How many red geraniums were sold?

_____

4 How many of the geraniums were not salmon?

_____

▶ Definition Review

Use the following words to complete each sentence.

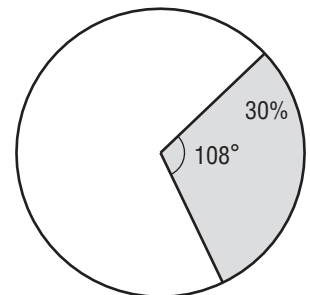   **center**   **circle graph**   **percent**   **sector**

5 A _____ is ratio that compares a number to 100.

6 A pie-shaped section of a circle graph is called a _____.

7 The point from which all points on a circle are the same distance is called its _____.

8 A _____ is a graph used to compare parts of a whole.

▶ Application

Use the figure to answer the questions below.

• What is the percentage of the shaded sector? _____

• How many degrees are in the shaded sector? _____

30%

108°

Lesson 9-1

Vocabulary and English Language Development

▶ Activate Prior Knowledge

Solve each equation.

1 $3x = 12$

_____

2 $x + 5 = 17$

_____

3 $x - 4 = 2$

_____

4 $\dfrac{x}{2} = 8$

_____

▶ Definition Review

Write the letter that matches the definition of each word.

5 ordered pair _____

A The value of a variable that makes an equation true

6 solution _____

B The first number of an ordered pair

7 x-coordinate _____

C A pair of numbers used to locate a point in the coordinate system

8 y-coordinate _____

D The second number of an ordered pair

▶ Application

9 Complete the table for the equation $y = 3x$.

x	3x	y	(x, y)
0	3(0) = 0	0	(0, 0)
1	3(_____) = _____		
2	3(_____) = _____		
5			

10 List four solutions of the equation $y = 3x$.

_____

Math Triumphs

Lesson 9-2

Vocabulary and English Language Development

▶ Activate Prior Knowledge

Find three solutions of each equation.

1 $y = 2x - 4$

2 $y = 4x$

_____

_____

▶ Definition Review

Use the following words to complete each sentence.
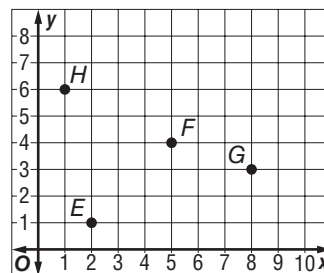
coordinate grid   scatter plot   x-axis   y-axis

3 The _____ is the vertical line of the two perpendicular number lines in a coordinate grid.

4 The _____ is the horizontal line of the two perpendicular number lines in a coordinate grid.

5 A grid in which a horizontal number line and a vertical number line intersect at their zero points is called a _____.

6 A graph in which two sets of data are plotted as ordered pairs in the coordinate grid is called a _____.

▶ Application

- Graph and label these points on the coordinate grid.
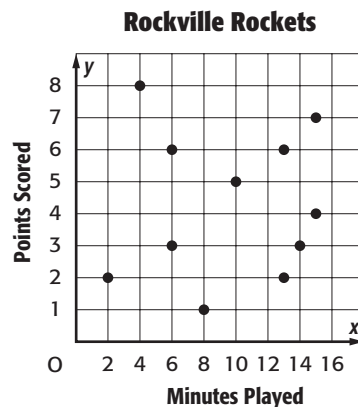
  A (6, 2), B (3, 5), C (0, 4), D (1, 0)

- Give the coordinates of points E, F, G, and H.

_____

Lesson
9-3

Vocabulary and English Language Development

▶ Activate Prior Knowledge

The scatter plot at the right shows the number of minutes played and the number of points scored for several basketball players during last night's game.

Rockville Rockets

1 Is the relationship positive, negative, or is there no relationship?

_____

2 Explain how you know.

_____

_____

▶ Definition Review

Use the following words to complete each sentence.

        data   line of best fit   slope

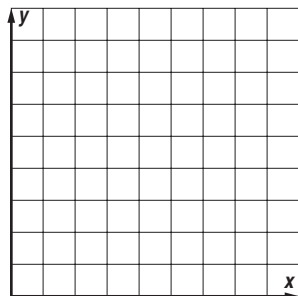**3** The rate of change between any two points on a line is called the

_____.

4 Information, often numerical, which is gathered for statistical

purposes is called _____.

5 A line that is very close to most of the data points on a
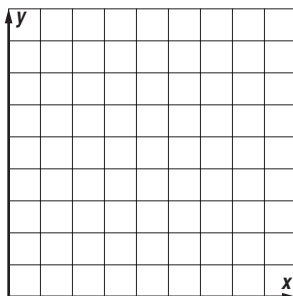
scatter plot is called a _____.

▶ Application

Sketch a scatter plot showing each relationship.

6 positive

7 negative

8 no relationship

Math Triumphs