Glencoe McGraw-Hill

Math Connects

Course 1

Word Problem Practice Workbook

Mc Graw Hill Glencoe

To the Student This *Word Problem Practice Workbook* gives you additional examples and problems for the concept exercises in each lesson. The exercises are designed to aid your study of mathematics by reinforcing important mathematical skills needed to succeed in the everyday world. The materials are organized by chapter and lesson, with one *Word Problem Practice* worksheet for every lesson in *Glencoe Math Connects, Course 1*.

Always keep your workbook handy. Along with your textbook, daily homework, and class notes, the completed *Word Problem Practice Workbook* can help you in reviewing for quizzes and tests.

To the Teacher These worksheets are the same ones found in the Chapter Resource Masters for *Glencoe Math Connects, Course 1*. The answers to these worksheets are available at the end of each Chapter Resource Masters booklet as well as in your Teacher Wraparound Edition interleaf pages.

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Send all inquiries to:
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Word Problem Practice Workbook, Course 1

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1-1 Word Problem Practice

A Plan for Problem Solving

Use the four-step plan to solve each problem.

GEOGRAPHY For Exercises 1 and 2, use the poster information about Crater Lake National Park in Oregon.

Visit Crater Lake National Park

90 miles of trails
26 miles of shoreline
Boat tours available
Open 24 hours

Directions from Klamath Falls: Take U.S. Highway 97 north 21 miles, then go west on S.R. 62 for 29 miles.

1. How many more miles of trails are there than miles of shoreline in Crater Lake National Park?	**2.** How many miles is it from Klamath Falls to Crater Lake National Park?
3. SPORTS Jasmine swims 12 laps every afternoon, Monday through Friday. How many laps does she swim in one week?	**4. SPORTS** Samantha can run one mile in 8 minutes. At this rate, how long will it take for her to run 5 miles?
5. SPORTS On a certain day, 525 people signed up to play softball. If 15 players are assigned to each team, how many teams can be formed?	**6. PATTERNS** Complete the pattern: 5, 7, 10, 14, ___, ___, ___
7. SHOPPING Josita received $50 as a gift. She plans to buy two cassette tapes that cost $9 each and a headphone set that costs $25. How much money will she have left?	**8. BUS SCHEDULE** A bus stops at the corner of Elm Street and Oak Street every half hour between 9 A.M. and 3 P.M. and every 15 minutes between 3 P.M. and 6 P.M. How many times will a bus stop at the corner between 9 A.M. and 6 P.M.?

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1-2 Word Problem Practice

Prime Factors

ANIMALS For Exercises 1–3, use the table that shows the height and weight of caribou.

CARIBOU	Height at the Shoulder		Weight	
	inches	centimeters	pounds	kilograms
Cows (females)	43	107	220	99
Bulls (males)	50	125	400	180

1. Which animal heights and weights are prime numbers?

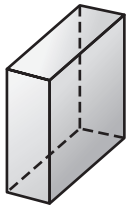
2. Write the weight of caribou cows in kilograms as a prime factorization.

3. ANIMALS Caribou calves weigh about 13 pounds at birth. Tell whether this weight is a prime or a composite number.

4. SPEED A wildlife biologist once found a caribou traveling at 37 miles per hour. Tell whether this speed is a prime or composite number. Explain.

5. GEOMETRY To find the area of a floor, you can multiply its length times its width. The measure of the area of a floor is 49. Find the most likely length and width of the room.

6. GEOMETRY To find the volume of a box, you can multiply its height, width, and length. The measure of the volume of a box is 70. Find its possible dimensions.



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1-3 Word Problem Practice

Powers and Exponents

1. SPACE The Sun is about $10 \cdot 10$ million miles away from Earth. Write $10 \cdot 10$ using an exponent. Then find the value of the power. How many miles away is the Sun?

2. WEIGHT A 100-pound person on Earth would weigh about $4 \cdot 4 \cdot 4 \cdot 4$ pounds on Jupiter. Write $4 \cdot 4 \cdot 4 \cdot 4$ using an exponent. Then find the value of the power. How much would a 100-pound person weigh on Jupiter?

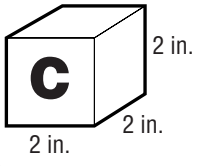
3. ELECTIONS In the year 2000, the governor of Washington, Gary Locke, received about 10^6 votes to win the election. Write this as a product. How many votes did Gary Locke receive?

4. SPACE The diameter of Mars is about 9^4 kilometers. Write 9^4 as a product. Then find the value of the product.

5. SPACE The length of one day on Venus is 3^5 Earth days. Express this exponent as a product. Then find the value of the product:

6. GEOGRAPHY The area of San Bernardino County, California, the largest county in the U.S., is about 3^9 square miles. Write this as a product. What is the area of San Bernardino County?

7. GEOMETRY The volume of the block shown can be found by multiplying the width, length, and height. Write the volume using an exponent. Find the volume.



8. SPACE A day on Jupiter lasts about 10 hours. Write a product and an exponent to show how many hours are in 10 Jupiter days. Then find the value of the power.

Lesson 1-3

NAME _____ DATE _____ PERIOD _____

1-4 Word Problem Practice

Order of Operations

MONEY For Exercises 1–3, use the table that shows the price of admission to a movie theater.

Movie Theater Admission
Adults: $8 Children (under 13): $5 Matinee (before 6 P.M.): $3

1. Janelle (age 12) and her cousin, Marquita (age 14), go to a 7:00 P.M. show. Write an expression for the total cost of admission. What is the total cost?

2. Jan takes her three children and two neighbor's children to a matinee. All of the children are under age 13. Write an expression for the total cost of admission. How much in all did Jan pay for admission?

3. Connor (age 13), his sister (age 7), and Connor's parents go to a movie on Saturday night. Write an expression for the total cost. What is the total cost?

4. SOCCER Eduardo is 16. Eduardo's dad takes him and his younger sister to a soccer match. Tickets are $17 for adults and $13 for children (18 and under). Write an expression for the total cost of the tickets. What is the total cost of the tickets?

5. MONEY Frankie orders two hamburgers and a soda for lunch. A hamburger is $3 and a soda is $1.00. Write an expression to show how much he paid for lunch. Then find the value of the expression.

6. MONEY A store sells barrettes for $2 each and combs for $1. Shelby buys 3 barrettes and a comb. Kendra buys 2 barrettes and 4 combs. Write an expression for the amount the two girls spent all together. Find the total amount spent.

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1-5 Word Problem Practice

Algebra: Variables and Expressions

TRAVEL For Exercises 1 and 2, use the table that shows the distance between cities in Arizona.

Arizona Mileage Chart

	Flagstaff	Phoenix	Tucson	Nogales
Phoenix	136 miles		117 miles	181 miles
Tucson	253 miles	117 miles		64 miles
Nogales	317 miles	181 miles	64 miles	

1. To find the speed of a car, use the expression $d \div t$ where d represents the distance and t represents time. Find the speed of a car that travels from Phoenix to Flagstaff in 2 hours.

2. To find the time it will take for a bicyclist to travel from Nogales to Tucson, use the expression $\frac{d}{s}$ where d represents distance and s represents speed. Find the time if the bicyclist travels at a speed of 16 miles per hour.

3. PERIMETER The perimeter of a rectangle can be found using the formula $2\ell + 2w$, where ℓ represents the length and w represents the width. Find the perimeter if $\ell = 6$ units and $w = 3$ units.

4. PERIMETER Another formula for perimeter is $2(\ell + w)$. Find the perimeter of the rectangle in Exercise 3 using this formula. How do the answers compare? Explain how you used order of operations using this formula.

5. SHOPPING Write an expression using a variable that shows how much 3 pairs of jeans will cost if you do not know the price of the jeans. Assume each pair costs the same amount.

6. SHOPPING Write an expression using variables to show how much 3 plain T-shirts and 2 printed T-shirts will cost, assuming that the prices of plain and printed T-shirts are not the same.

Lesson 1-5

NAME _____ DATE _____ PERIOD _____

1-6 Word Problem Practice

Algebra: Functions

1. DRAGONS The Luck Dragons that live in the Enchanted Forest weigh $4x$ pounds when they are x years old. Write a function table that can be used to find the weights of 6-year old, 8-year old, and 10-year old Luck Dragons.	**2. ROLLER COASTER** Twelve people are able to ride the Serpent of Fire roller coaster at one time. Write a function table that shows the total number of people that have been on the roller coaster after 1, 2, 3, and 4 rides.
3. MOVIES At the local movie theater it costs \$10.00 for 2 students to see a movie. It costs \$15.00 for 3 students, and it costs \$20.00 for 4 students. Let the number of students be the input. What is the function rule that relates the number of students to the cost of tickets?	**4. HOMEWORK** At Elmwood Middle School, sixth graders spend 1 hour every night doing homework. Seventh graders spend 2 hours, and eighth graders spend 3 hours. Let the students' grade be the input. What is the function rule between the students' grade and the amount of time the students spend on homework every night?
5. BEADS A bead shop sells wooden beads for \$3 each and glass beads for \$7 each. Write a function rule to represent the total selling price of wooden (w) and glass (g) beads.	**6.** Use the function rule in Exercise 5 to find the selling price of 20 wooden beads and 4 glass beads.

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1-7 Word Problem Practice

Problem-Solving Investigation: Guess and Check

1. AGES The sum of Cooper's, Dante's, and Maria's ages is 31. Dante is twice as old as Cooper. Maria is one year older than Dante. How old are Cooper, Dante, and Maria?

2. ELEVATION The table shows the highest point of elevation for 5 different states. How much higher is the highest point of elevation in Colorado than Texas?

State	Highest Point of Elevation (feet)
Arizona	12,633
Colorado	14,433
Georgia	4,784
North Carolina	6,684
Texas	8,749

3. FOOTBALL The junior varsity football team scored 23 points in last Saturday's game. They scored a combination of 7-point touchdowns and 3-point field goals. How many touchdowns and how many field goals did they score?

4. MONEY Willow purchased a new car. Her loan, including interest, is $12,720. How much are her monthly payments if she has 60 monthly payments to make?

5. PATTERNS Draw the next figure in the pattern.

6. FUNDRAISER The school band is having a car wash to raise money. Their goal is to collect $150. So far they have earned $10 each from three families and $5 each from 15 families. How much more money do they have to earn to reach their goal?

Lesson 1-7

NAME _____ DATE _____ PERIOD _____

1-8 Word Problem Practice

Algebra: Equations

INSECTS For Exercises 1–3, use the table that gives the average lengths of several unusual insects in centimeters.

Insect	Length (cm)	Insect	Length (cm)
Walking stick	15	Giant water bug	6
Goliath beetle	15	Katydid	5
Giant weta	10	Silkworm moth	4
Harlequin beetle	7	Flower mantis	3

1. The equation $15 - x = 12$ gives the difference in length between a walking stick and one other insect. If x is the other insect, which insect is it?

2. The equation $7 + y = 13$ gives the length of a Harlequin beetle and one other insect. If y is the other insect, which insect makes the equation a true sentence?

3. Bradley found a silkworm moth that was 2 centimeters longer than average. The equation $m - 4 = 2$ represents this situation. Find the length of the silkworm moth that Bradley found.

4. BUTTERFLIES A Monarch butterfly flies about 80 miles per day. So far it has flown 60 miles. In the equation $80 - m = 60$, m represents the number of miles it has yet to fly that day. Find the solution to the equation.

5. CICADAS The nymphs of some cicada can live among tree roots for 17 years before they develop into adults. One nymph developed into an adult after only 13 years. The equation $17 - x = 13$ describes the number of years less than 17 that it lived as a nymph. Find the value of x in the equation to tell how many years less than 17 years it lived as a nymph.

6. BEETLES A harlequin beetle lays eggs in trees. She can lay up to 20 eggs over 2 or 3 days. After the first day, the beetle has laid 9 eggs. If she lays 20 eggs in all, how many eggs will she lay during the second and third days?

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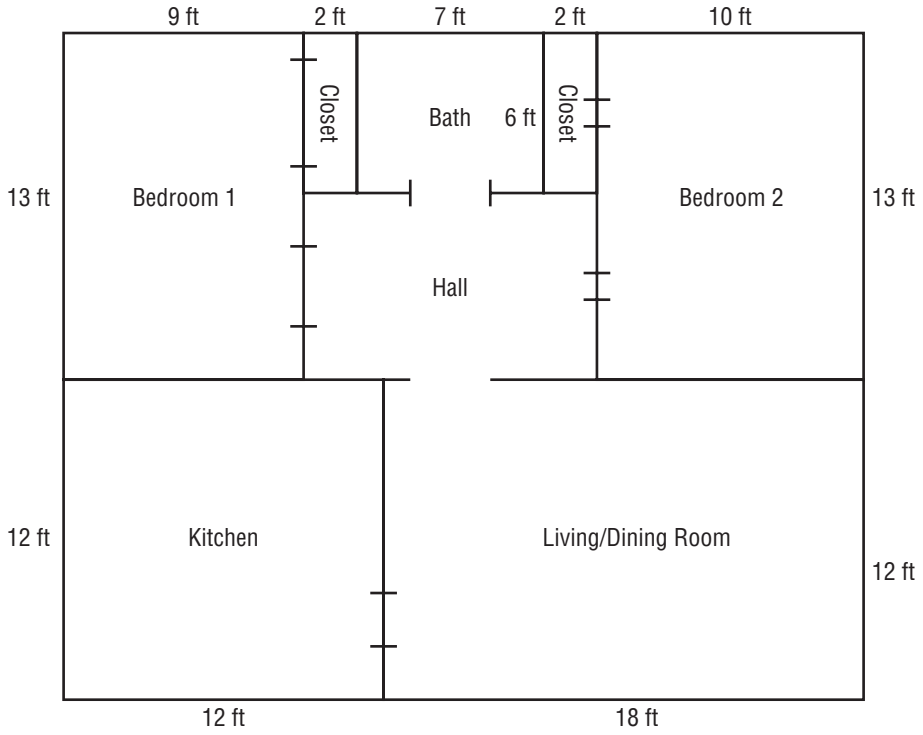
1-9 Word Problem Practice

Algebra: Area Formulas

FLOOR PLANS **For Exercises 1–6, use the diagram that shows the floor plan for a house.**



1. What is the area of the floor in the kitchen?	**2.** Find the area of the living/dining room.
3. What is the area of the bathroom?	**4.** Find the area of Bedroom 1.
5. Which two parts of the house have the same area?	**6.** How much larger is Bedroom 2 than Bedroom 1?

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2-1 Word Problem Practice

Problem-Solving Investigation: Make a Table

1. SPORTS The table shows the result of Shante's survey of her classmates' favorite sports. How many more students chose softball/baseball than football?

Favorite Sports						
B	V	V	S	B	SB	SB
F	SB	B	S	V	F	B
B	SB	V	SB	SB	S	V

B = basketball F = football S = soccer
SB = softball/baseball V = volleyball

2. BASEBALL The table shows the national league home run leaders in the 2002–2006 seasons. How many more home runs did Ryan Howard hit in 2006 than Jim Thome in 2003?

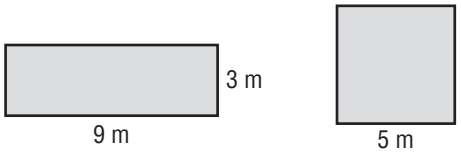
Year	Home Run Leader	Number of Home Runs
2002	Sammy Sosa	49
2003	Jim Thome	47
2004	Adrian Beltre	48
2005	Andruw Jones	51
2006	Ryan Howard	58

3. MONEY Trista has 8 coins in her pocket that total \$1.55. She only has quarters and dimes. How many of each coin does Trista have?

4. ORDER OF OPERATIONS Use each of the symbols $+$, $-$, $\times$, and $\div$ to make the following math sentence true.

12 ____ 3 ____ 7 ____ 1 ____ 11 = 0

5. GEOMETRY Find the difference in the area of the rectangle and the area of the square.



6. BICYCLES Kenji is saving money to buy a new bicycle that costs \$125. So far he has saved his weekly allowance of \$5 for the past 8 weeks. He also saved \$35 from his birthday money. How much more money does Kenji need to save?

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2-2 Word Problem Practice

Bar Graphs and Line Graphs

TREES For Exercises 1, 3, and 4, use Table A. For Exercises 2, 5, and 6, use Table B.

Table A

Average Heights of Pine Trees	
Tree	**Height (ft)**
Eastern White	75
Lodgepole	48
Longleaf	110
Pitch	55
Ponderosa	140

Table B

Lemons Produced by My Tree	
Year	**Number of Lemons**
2004	26
2005	124
2006	122
2007	78
2008	55

1. You and Jorge are writing a report on different kinds of pine trees. Make a bar graph for the report that shows the average heights of different kinds of pine trees. Use the data from Table A.

2. Table B shows the number of lemons your tree produced each year. Make a line graph for the data in Table B.

3. Use your graph for Exercise 1. Which tree is about half as tall as a ponderosa?

4. How does the average height of a pitch pine compare to the average height of a lodgepole pine?

5. Use the line graph you made in Exercise 2. Describe the change in fruit production for your lemon tree.

6. FRUIT Suppose you want to make a graph of the total number of lemons produced by your lemon tree and the total number of oranges produced by your orange tree in one year. Would you make a bar graph or a line graph? Explain.

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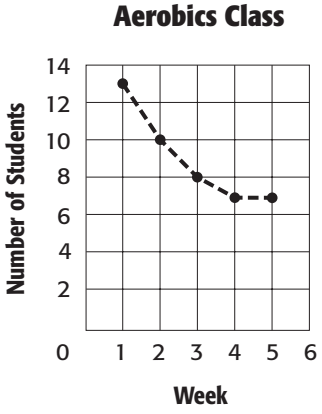
2-3 Word Problem Practice

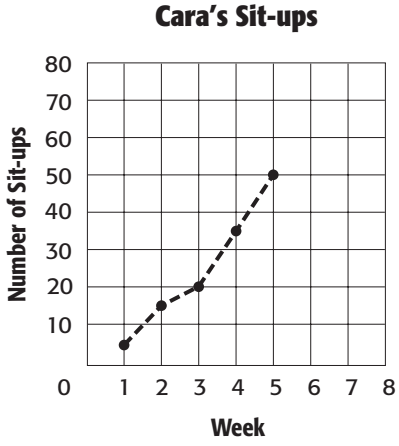
Interpret Line Graphs

FITNESS For Exercises 1–3, use Graph A. For Exercises 4–6, use Graph B.

Graph A



Graph B



1. Refer to Graph A. Describe the change in the number of students taking the aerobics class.	**2.** Predict how many students will be in the aerobics class in week 6 if the trend continues.
3. Predict how many students will be in the aerobics class in week 8.	**4.** Describe the change in the number of sit-ups Cara can do.
5. Predict how many sit-ups Cara will be able to do in week 6 if the trend continues.	**6.** Predict the week in which Cara will be able to do 80 sit-ups if the trend continues.

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2-4 Word Problem Practice

Stem-and-Leaf Plots

TRAFFIC For Exercises 1 and 2, use the table. For Exercises 3 and 4, use the stem-and-leaf plot.

Number of Trucks Passing Through the Intersection Each Hour					
5	15	6	42	34	28
19	18	19	22	23	21
32	26	34	19	29	21
10	6	8	40	14	17

Number of Birds at a Watering Hole Each Hour

Stem	Leaf
1	8 9
2	4 8 9
3	3 4 4 4
4	2 5 5 5 5 7 8
5	0 0 3 3 4 6 6 7

3 | 4 = 34 birds

1. Mr. Chin did a traffic survey. He wrote down the number of trucks that passed through an intersection each hour. Make a stem-and-leaf plot of his data.

2. Refer to your stem-and-leaf plot from Exercise 1. Mr. Chin needs to know the range of trucks passing through the intersection in one hour into which the greatest number of trucks fall.

3. What is the least number of birds at the watering hole in one hour? What is the greatest number?

4. What is the most frequent number of birds to be at the watering hole in one hour?

5. RVs Make a stem-and-leaf plot for the number of RVs Mr. Chin counted in 12 hours: 3, 4, 9, 13, 7, 9, 8, 5, 4, 6, 1, 11.

6. RVs Write a few sentences that analyze the RV data for Mr. Chin's report in Exercise 5.

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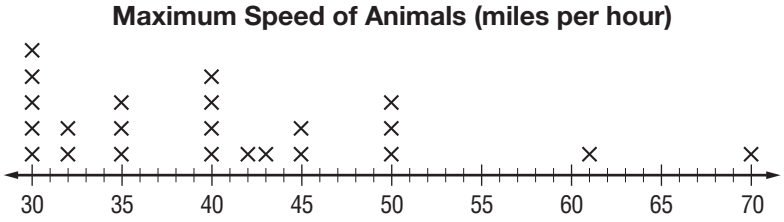
2-5 Word Problem Practice

Line Plots

ANIMALS For Exercises 1–4, use the line plot below about the maximum speed of several animals.



1. How many animals represented in the line plot have a maximum speed of 45 miles per hour?	**2.** What speed is most common that is represented in the line plot?
3. What is the difference between the greatest speed and least speed represented in the line plot?	**4.** Write one or two sentences that analyze the data.
5. LAWN SERVICE Make a line plot for the amount of money Kyle earned this summer with each lawn service job: \$20, \$25, \$30, \$15, \$22, \$25, \$25, \$30, \$18, \$15, \$25, \$20.	**6. MAGAZINES** Make a line plot for the selling price of several popular magazines: \$3, \$4, \$5, \$4, \$3, \$2, \$4, \$5, \$3, \$7, \$9, \$3, \$4, \$5.

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2-6 Word Problem Practice

Mean

ANIMALS For Exercises 1–3, use the table about bears.

Bear	Average Height (ft)	Average Weight (lb)
Alaskan Brown	8	1,500
Black	6	338
Grizzly	7	588
Polar	7	850

1. You are writing a report on bears. You are analyzing the data on heights and weights in the table above. First look for outliers. Identify the outlier for the height data. Identify the outlier for the weight data.

2. Find the mean of the bear weight data with and without the outlier.

3. Describe how the outlier affects the mean of the bear weight data.

4. WORK Carlos earned $23, $29, $25, $16, and $17 working at an ice cream shop after school. What is the mean amount he earned?

5. CARS The cost of a tank of gas at nine different gas stations is shown below. What was the mean cost of a tank of gas?

Cost of Gas: $17, $18, $22, $15, $17, $16, $25, $21, and $20

6. SCHOOL Sally received scores on math quizzes as shown below. Find her mean score with and without both outliers.

Quiz Scores: 84, 85, 91, 81, 52, 92, 99, 91, and 45

Lesson 2-6

NAME _____ DATE _____ PERIOD _____

2-7 Word Problem Practice

Median, Mode, and Range

SCIENCE For Exercises 1–3, use Table A. For Exercises 4–6, use Table B. Table A shows the number of days it took for some seeds to germinate after planting. Table B shows how tall the plants were after 60 days.

Table A

Number of Days for Seeds to Germinate				
15	20	30	15	16
9	21	21	15	

Table B

Height (in.) of Plants After 60 Days				
17	19	13	17	20
15	17	21	14	

1. Refer to Table A. You are doing some experiments with germinating seeds. You are preparing a report on your findings to a seed company. What are the mean, median, and mode of the data?

2. Use your answer from Exercise 1. Which measure of central tendency best describes the data? Explain.

3. What is the range of the seed germination data? Describe how the data vary.

4. What are the mean, median, and mode of the plant height data?

5. Refer to your answer in Exercise 4. Which measure of central tendency best describes the data? Explain.

6. What is the range of the plant height data? Describe how the data vary.

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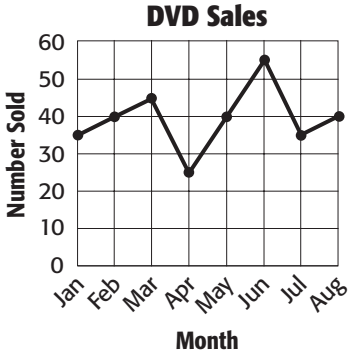
2-8 Word Problem Practice

Selecting an Appropriate Display

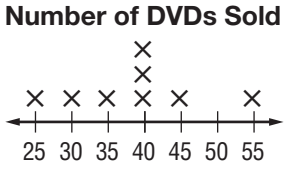
VIDEOS For Exercises 1–4, use the three graphs on DVD sales shown below.



Number of DVDs Sold

Stem	Leaf
2	5
3	0 5
4	0 0 0 5
5	5

3 | 0 = 30 DVDs



1. Which display makes it easiest to see what number of DVDs were sold the most often?

2. Which display makes it easiest to find the range of the data?

3. Which display makes it easiest to see how the number of DVDs sold changed from January to August?

4. Which display makes it easiest to compare the number of DVDs sold in April to the number of DVDs sold in August?

5. MUSIC What type of display would be best to show the different price of a music CD at five different stores?

6. ROLLER COASTERS Select and make an appropriate type of display for the following data.

Steepness of Wooden Roller Coasters		
70°	63°	61°
59°	57°	56°
55°	55°	54°

Lesson 2-8

NAME _____ DATE _____ PERIOD _____

2-9 Word Problem Practice

Integers and Graphing

1. **MONEY** Katryn owes her father $25. Write this number as an integer.

2. **GEOGRAPHY** Mt. Whitney in California is 14,494 feet above sea level. Write this number as an integer.

3. **GEOGRAPHY** Badwater in Death Valley is 282 feet below sea level. Write this number as an integer.

4. **SCHOOL** Dick forgot to put his name on his homework. His teacher deducts 5 points for papers turned in without names on them. So, Dick lost 5 points from his score. Write this number as an integer.

5. **GEOGRAPHY** Multnomah Falls in Oregon drops 620 feet from the top to the bottom. Suppose a log is carried by the water from the top to the bottom of the falls. Write the integer to describe the location of the log now.

6. **TRAVEL** The train left the station and traveled ahead on the tracks for 30 miles. Write an integer to describe the new location of the train from the station.

7. **WEATHER** The table shows the average normal January temperature of three cities in Alaska. Graph the temperatures on a number line.

City	Temperature (°F)
Anchorage	15
Barrow	−13
Fairbanks	−10

8. **GAMES** The table below shows the number of points Chantal scored on each hand of a card game. Make a line plot of the data.

Points Scored		
+20	+5	0
−5	−10	+5
+5	+10	+10

NAME _____ DATE _____ PERIOD _____

3-1 Word Problem Practice

Representing Decimals

BASEBALL For Exercises 1–4, use the table.

The table shows lifetime batting averages for leading baseball players.

Lifetime Batting Averages for Leading Players		
Player	**Team**	**Batting Average**
Albert Pujols	St. Louis Cardinals	0.331
Derek Jeter	New York Yankees	0.316
Manny Ramirez	Boston Red Sox	0.315
Mike Piazza	San Diego Padres	0.309
Chipper Jones	Atlanta Braves	0.304

1. Write Mike Piazza's batting average in word form.

2. Which digit is in the thousandths place of each player's batting average?

3. What is the batting average for the New York Yankees player in expanded form?

4. Which player's average has a 3 in the hundredths place?

5. BUILDING When measuring board footage for some exotic woods, a carpenter must use 1.25 for thickness rather than 1 in her calculations. Write 1.25 in expanded form.

6. TRAVEL The summer camp Jason attends is exactly four hundred twenty-three and four tenths of a mile from his home. Write *four hundred twenty-three and four tenths* in standard form.

NAME _____ DATE _____ PERIOD _____

3-2 Word Problem Practice

Comparing and Ordering Decimals

MUSIC For Exercises 1–4, use the table.

The table shows the percent of the music market for each type of music.

Music Industry Sales Statistics, 2003	
Type of Music	**Percent of Market**
Pop	8.9
Country	10.4
Rock	25.2
Rap/Hip-Hop	13.3
R&B	10.6

1. Use $>$ or $<$ to compare the percents for pop and rap/hip-hop. Which is greater?

2. Use $>$ or $<$ to compare the percents for country and R&B. Which is greater?

3. If you owned a store that sells CDs, which kind of music would you want to sell, based on the table? Explain.

4. Suppose children's songs have 8.05 percent of the market. Is this greater or less than the percent for pop music? Explain.

5. CONSTRUCTION Alberto is setting out four boards of lumber. The lengths of the boards are 4.5 feet, 4.52 feet, 4 feet, and 4.505 feet. Order the lengths from longest to shortest.

6. CONSTRUCTION Ella set out a board of pine lumber that was 0.8 feet long and a board of cedar lumber that was 0.80 feet long. Alberto said the cedar board was longer. Is he correct? Explain.

NAME _____ DATE _____ PERIOD _____

3-3 Word Problem Practice

Rounding Decimals

POPULATION For Exercises 1 and 2, use the table.

The table shows the number of people in the United States per square mile.

U.S. Population	
Year	**Number of people per square mile of land area**
1970	57.4
1980	64.0
1990	70.3
2000	79.6

1. Round the decimal for the number of people per square mile in 2000 to the nearest tens. Then round it to the nearest ones.	**2.** Round the decimal for the number of people per square mile in 1970 to the nearest tens. Then round it to the nearest ones.

EVERGLADES For Exercises 3–7, use the following information.

The Everglades National Park gets an average of 59.10 inches of rainfall a year. It had 1.181351 million visitors in 2004, and its budget for 2003 was $13.958 million.

3. How much rain does the Everglades National Park receive each year rounded to the nearest inch?	**4.** How many visitors did the park have rounded to the nearest tenth of a million?
5. How many visitors did the park have rounded to the nearest ten-thousandth of a million?	**6.** What is the budget to the nearest million?
7. What is the budget to the nearest hundredth of a million?	**8. SNOWBOARDING** Mike, Jake, and Aaron are buying snowboards. Mike is getting his snowboard on sale for $219.49. Jake's costs $279.97. Aaron's costs $234.95. Round each snowboard price to the nearest dollar.

NAME _____ DATE _____ PERIOD _____

3-4 Word Problem Practice

Estimating Sums and Differences

SPORTS For Exercises 1–3, use the table.

The table shows the percent of annual hospital visits due to sports injuries by males 15 to 19 years of age.

Percent of Male Sports-Related Injuries in the U.S.			
Sport	**Percent**	**Sport**	**Percent**
Basketball	25.9	Boxing, Wrestling	4.4
Football	21.3	Exercise	3.8
Baseball/softball	4.1	Bicycling	8.1
Soccer	4.6	Skateboarding	3.6

1. Use clustering to estimate the total number of hospital visits due to injuries in baseball/softball, exercising, skateboarding, and boxing.

2. Use rounding to estimate how many more visits were due to football injuries than to soccer injuries.

3. Use front-end estimation to estimate the total number of visits caused by injuries in basketball and skateboarding.

4. **BASKETBALL** Len dribbled a basketball for 43 seconds before Greg got the ball away. Then Greg dribbled the ball for 11.525 seconds before Len got the ball. Use front-end estimation to estimate how many more seconds Len dribbled the ball than Greg.

5. **GARDENING** Kevin is going to plant three new types of vegetables in his garden. The garden store sells packages of tomatillo seeds for $1.67, chili pepper seeds for $0.89, and pumpkin seeds for $2.32. Use rounding to estimate how much Kevin will spend on all three packets of seeds.

6. **TRAVEL** Gloria drove 53.2 miles to her grandmother's home. From her grandmother's home she drove 12.67 miles to her aunt's home. Use front-end estimation to estimate how many miles Gloria drove to get to her aunt's home. Then use rounding to estimate the number of miles again.

NAME _____ DATE _____ PERIOD _____

3-5 Word Problem Practice

Adding and Subtracting Decimals

1. MICE The average length of the head and body of a western harvest mouse is 2.9 inches. The average length of the tail is 2.8 inches. First, estimate the total length of the mouse. Then find the actual total length.	**2. MUSIC** A piano solo on a CD is 5.33 minutes long. A guitar solo is 9.67 minutes long. How much longer is the guitar solo than the piano solo? First estimate the difference. Then find the actual difference.
3. WHALES The average length of a humpback whale is 13.7 meters. The average length of a killer whale is 6.85 meters. How much longer is the humpback whale than the killer whale?	**4. GARDENING** Alan is connecting three garden hoses to make one longer hose. The green hose is 6.25 feet long, the orange hose is 5.755 feet long, and the black hose is 6.5 feet long. First, estimate the total length. Then find the actual total length.
5. ASTRONOMY Distance in space can be measured in astronomical units, or AU. Jupiter is 5.2 AU from the Sun. Pluto is 39.223 AU from the Sun. How much closer to the Sun is Jupiter than Pluto?	**6. ALGEBRA** It is x miles from James City to Huntley and y miles from Huntley to Grover. How many miles is it from James City to Grover? To find out, evaluate $x + y$ if $x = 4.23$ and $y = 16.876$.

NAME _____ DATE _____ PERIOD _____

3-6 Word Problem Practice

Multiplying Decimals by Whole Numbers

1. COOKING Norberto uses three 14.7 oz cans of chicken broth when he makes his delicious tortilla soup. How many total ounces of chicken broth does he use?	**2. TIME** Amanda works on a farm out in the hills. It takes her 2.25 hours to drive to town and back. She usually goes to town twice a week to get supplies. How much time does Amanda spend driving if she takes 8 trips to town each month?
3. EXERCISE The local health club is advertising a special for new members: no initiation fee to join and only $34.50 per month for the first year. If Andy joins the health club for one year, how much will he spend on membership?	**4. BIKING** In order to train for a cross-state biking trip, Julie rides her bike 34.75 miles five times a week. How many total miles does she ride each week?
5. MONEY David wants to buy 16 bolts from a bin at the hardware store. Each bolt costs $0.03. How much will David pay for the bolts?	**6. INSECTS** One wing of a Royal Moth is 0.75 inch across. How wide is the moth's wingspan when both wings are open?
7. COSTUMES KJ is making costumes for this year's samba parade. The pattern she is using calls for 2.125 yards of fabric for each costume. How many yards of fabric will she need to make 34 costumes?	**8. POOL PASSES** The girl scouts are going to the pool. It will cost them $2.50 per person to go and there are 10 people going. What will the total cost be?

NAME _____ DATE _____ PERIOD _____

3-7 Word Problem Practice

Multiplying Decimals

1. GIFTS Colin is filling 4.5 ounce bottles with lavender bubble bath that he made for gifts. He was able to fill 7.5 bottles. How many ounces of bubble bath did he make?	**2. GROCERY** Iona's favorite peaches are $2.50 per pound at the local farmers' market. She bought 3.5 pounds of the peaches. How much did she spend?
3. SHOPPING Jennifer is buying new school clothes. The items she wants to buy add up to $132.50 before sales tax. Sales tax is calculated by multiplying the total amount by 0.08. What is the amount of sales tax for the items?	**4. DRIVING** Ana bought a van that holds 20.75 gallons of gas and gets an average of 15.5 miles per gallon. How many miles can she expect to go on a full tank?
5. INCOME Ishi makes $8.50 an hour rolling sushi at Kyoto Japanese Restaurant. His paycheck shows that he worked 20.88 hours over the past two weeks. How much did Ishi make before taxes?	**6. TRAVEL** Manny is on vacation in France. He rented a car to drive 233.3 kilometers from Paris to Brussels and wants to figure out the distance in miles. To convert from kilometers to miles, he needs to multiply the total kilometers by 0.62. How many miles will Manny drive?

NAME _____ DATE _____ PERIOD _____

3-8 Word Problem Practice

Dividing Decimals by Whole Numbers

1. ENTERTAINMENT Frank, Gina, Judy, and Connie are splitting their dinner bill. After tip, the total is $30.08. How much does each owe if they split the bill four ways?

2. FOOD There are 25 servings in a 12.5 ounce bottle of olive oil. How many ounces are in a serving?

3. RUNNING Isabella has found that she stays the most fit by running various distances and terrains throughout the week. On Mondays she runs 2.5 miles, on Tuesdays 4.6 miles, on Thursdays 6.75 miles, and on Saturdays 4.8 miles. What is the average distance Isabella runs on each of the days that she runs? Round to the nearest hundredth of a mile.

4. BUSINESS Katherine spends $1,089.72 each month for rent and supplies to run her hair salon. If she charges $18 for a haircut, how many haircuts must Katherine do to cover her monthly expenses? Round to the nearest whole number.

5. CONSTRUCTION It took Steve and his construction crew 8 months to build a house. After expenses, he was left with $24,872.67 for himself. On average, how much did Steve make per month? Round to the nearest dollar.

6. GRADES Shane wants to figure out what grade he is getting in math. His test scores were 85.6, 78.5, 92.5, 67, and 83.7. What was his average test score? What grade will he receive?

Grade	Average Score
A	90 – 100
B	80 – 89
C	70 – 79
D	60 – 69
F	50 – 59

NAME _____ DATE _____ PERIOD _____

3-9 Word Problem Practice

Dividing by Decimals

MARATHON For Exercises 1 and 2, use the table that shows course records for the Boston Marathon.

Course Records for the Boston Marathon			
Division	**Record-holder**	**Year**	**Time (hours)**
Men's Open	Cosmas Ndeti	1994	2.121
Women's Open	Margaret Okayo	2002	2.345
Men's Wheelchair	Ernst Van Dyk	2004	1.305
Women's Wheelchair	Jean Driscoll	1994	1.523

1. The Boston Marathon is 26.2 miles. Use the times shown in the table to calculate the miles per hour for each division winner. Round to the nearest thousandth.

2. To the nearest hundredth, how many times greater was the men's open time than the women's wheelchair time?

3. DRIVING The Martinez family drove 48.7 miles to the river. It took them 1.2 hours to get there. How fast did they drive? Round to the nearest whole number.

4. SHOPPING Nikki is buying some refrigerator magnets for her friends. Her total bill is $16.80. If magnets are $0.80 each, how many magnets is she buying?

5. SCALE MODEL Matt is making a scale model of a building. The model is 3.4 feet tall. The actual building is 41.48 feet tall. How many times smaller is the model than the actual building?

6. COOKING Yori has 14.25 cups of cupcake batter. If each cupcake uses 0.75 cup of batter, how many cupcakes can Yori make?

Lesson 3-9

NAME _____ DATE _____ PERIOD _____

3-10 Word Problem Practice

Problem-Solving Investigation: Reasonable Answers

1. **FOOD** Anoki is selling cotton candy at the school carnival. The machine holds enough for 16 cotton candy treats. If he needs to refill the machine every 30 minutes, how many cotton candy treats can he expect to sell in 3 hours?

2. **ZOOS** The table shows the admission price to a local zoo.

Ticket Prices	
Adult	$7.00
Student	$4.50
Child under 5	$3.00

The Jung family is buying 2 adult tickets, 2 student tickets, and 1 child's ticket. How much will it cost the Jung family for admission to the zoo?

3. **AGES** Ava's mother is 3 times as old as Ava. Her grandmother is twice as old as Ava's mother. The sum of their three ages is 120. How old is Ava, her mother, and her grandmother?

4. **PURSES** A department store sells three different styles of purses made by a certain designer. Each style comes in navy, black, or pink. How many different purses are available by this designer at the department store?

5. **FOOD** Keegan stopped by the deli for his mom. If he has $14, does he have enough money to buy 1 pound of turkey, 1 pound of roast beef, and 1 pound of ham? Explain.

Lunch Meat Prices (lb)	
Ham	$3.95
Roast beef	$6.29
Salami	$2.99
Turkey	$2.99

6. **PATTERNS** Draw the next two figures in the pattern shown below.

NAME _____ DATE _____ PERIOD _____

4-1 Word Problem Practice

Greatest Common Factor

1. WAREHOUSE A warehouse has three shelves that can hold 8, 12, or 16 skateboards. Each shelf has sections holding the same number of skateboards. What is the greatest number of skateboards that can be put in a section? Explain.

2. FRUIT Mei has 15 oranges, 9 peaches, and 18 pears. She wants to put all of the fruit into decorative baskets. Each basket must have the same number of pieces of fruit in it. Without mixing fruits, what is the greatest number of pieces of fruit Mei can put in each basket? Explain.

3. SHIPPING Oscar needs to ship 14 rock CDs, 12 classical CDs, and 8 pop CDs. He can pack only one type of CD in each box, and he must pack the same number of CDs in each box. What is the greatest number of CDs Oscar can pack in each box? Explain.

4. GARDENING Jill wants to put 45 sunflower plants, 81 corn plants, and 63 tomato plants in her garden. If she puts the same number of plants in each row and if each row has only one type of plant, what is the greatest number of plants Jill can put in one row? Explain.

5. MONEY The list shows the amounts of money the club leader collected from members for a camping trip. Each member paid the same amount. What is the most the camping trip could cost per member? Explain.

Wednesday	$36
Thursday	$54
Friday	$72

6. MONEY Use the information from Exercise 5. How many members have paid to go on the camping trip if the price is the greatest possible price per member?

Lesson 4-1

NAME _____ DATE _____ PERIOD _____

4-2 Word Problem Practice

Simplifying Fractions

For Exercises 1–3, use the following information and the table at the right. Write your answers in simplest form.

In a frequency table, the relative frequency of a category is the fraction of the data that falls in that class.

To find relative frequency, divide the frequency by the total number of items.

Eye Color Survey		
Color	**Tally**	**Frequency**
Brown	𝍸𝍸	12
Blue	𝍸	5
Green	𝍸	4
Hazel	𝍸	8
Violet	𝍸	1

1. STATISTICS What is the relative frequency of people with brown eyes?

2. STATISTICS What is the relative frequency of people with hazel eyes?

3. STATISTICS What is the relative frequency of people with brown or hazel eyes?

4. ANIMALS Lions sleep about 20 hours a day. Write $\frac{20}{24}$ as a fraction in simplest form.

5. MARBLES Carlota has 63 marbles. Twenty-eight of her marbles are aggies. What fraction of Carlota's marbles are aggies? Write the answer in simplest form.

6. MOVIES Fourteen of the top thirty all-time grossing children's films were animated films. Write $\frac{14}{30}$ as a fraction in simplest form.

NAME _____ DATE _____ PERIOD _____

4-3 Word Problem Practice

Mixed Numbers and Improper Fractions

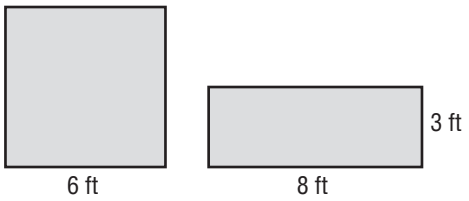
1. MILEAGE Brownsville is $7\frac{5}{8}$ miles away from Frisco. Write the distance as an improper fraction.	**2. SWIMMING** Steven swam $\frac{47}{6}$ meters crossing Lady Jay Creek. Write the distance he swam as a mixed number.
3. FOOD Kenji's favorite recipe calls for $3\frac{3}{4}$ cups of flour. Write the amount of flour he needs as an improper fraction.	**4. PUPPY** Nikki's puppy weighs $\frac{25}{7}$ pounds. Write the puppy's weight as a mixed number.
5. EXERCISE Koto can run $4\frac{7}{10}$ miles before she is too tired to keep going. Write the distance she can run as an improper fraction.	**6. GEOGRAPHY** Hampshire Hill is $\frac{87}{9}$ meters tall. Write its height as a mixed number.

NAME _____ DATE _____ PERIOD _____

4-4 Word Problem Practice

Problem-Solving Investigation: Make an Organized List

1. GEOMETRY Find the difference in the areas of the square and rectangle.



2. ICE CREAM Meagan is taking the kids she is babysitting to the local ice cream parlor. If she has $7, does she have enough money for two ice cream sandwiches, one sundae, and one scoop of ice cream?

Ice Cream Prices	
One scoop	$1.05
Two scoops	$2.05
Ice cream sandwich	$0.99
Ice cream sundae	$2.79

3. FUNDRAISER The school band is selling cookie dough for a fundraiser. A tub of cookie dough sells for $12, a pack of dry cookie mix sells for $5, and drop cookie dough sells for $15 a pack. If the school band sells 24 tubs, 15 dry mixes, and 30 packs of drop cookie dough, how much money will they collect?

4. SHOPPING At a sports store, Curtis bought some baseball card packs and some T-shirts. The baseball card packs cost $3 each and the T-shirts cost $8 each. If Curtis spent $30, how many baseball card packs and how many T-shirts did he buy?

5. LANGUAGE ARTS On Monday, 86 science fiction books were sold at a book sale. This is 8 more than twice the amount sold on Thursday. How many science fiction books were sold on Thursday?

6. PATTERNS What number is missing in the pattern . . . , 234, 345, ___?___ , 567, . . . ?

NAME _____ DATE _____ PERIOD _____

4-5 Word Problem Practice

Least Common Multiple

1. FORESTRY Omar is planting trees. He has enough trees to plant 6, 7, or 14 trees in each row. What is the least number of trees Omar could have?	**2. BUSES** The Line A bus arrives at the bus stop every 25 minutes, and the Line B bus arrives every 15 minutes. They are both at the bus stop right now. In how many minutes will they both be at the bus stop again?
3. MARCHING BAND The high school marching band rehearses with either 6 or 10 members in every line. What is the least number of people that can be in the marching band?	**4. TIME** In a clock, a large gear completes a rotation every 45 seconds, and a small gear completes a rotation every 18 seconds. How many seconds pass before the gears align again?
5. ROSES Dante is planting his rose garden. He knows he can plant all of his roses by planting 12 or 15 rose bushes in every row. What is the least number of rose bushes Dante could have?	**6. FAMILY** Every 7 years the Lancaster family has a family reunion. Every 6 years they update their family tree. If they both had a photo taken and updated their family tree in 1997, in what year will both events occur again?

NAME _____ DATE _____ PERIOD _____

4-6 Word Problem Practice

Comparing and Ordering Fractions

1. SHOES Toya is looking in her closet. If $\frac{1}{3}$ of her shoes are black and $\frac{2}{5}$ are brown, does she have more black shoes or more brown shoes? Explain.	**2. BUDGET** Daniel spends $\frac{3}{7}$ of his money on rent and $\frac{4}{9}$ of his money on food. Does he spend more money on food or rent? Explain.
3. WOODWORKING Isi drilled a hole that is $\frac{5}{9}$ inch wide. She has a screw that is $\frac{5}{6}$ inch wide. Is the hole wide enough to fit the screw? Explain.	**4. FOOD** In a recent survey, $\frac{2}{5}$ of the people surveyed said their favorite food was pizza, $\frac{1}{4}$ said it was hot dogs, and $\frac{3}{10}$ said it was popcorn. Which food was favored by the greatest number of people? Explain.
5. OFFICE SUPPLIES A blue paper clip is $\frac{1}{6}$ inch wide. A silver paper clip is $\frac{3}{8}$ inch wide, and a red paper clip is $\frac{1}{3}$ inch wide. What color paper clip has the smallest width? Explain.	**6. GUMBALLS** A red gumball is $\frac{5}{8}$ inch across. A green gumball is $\frac{5}{6}$ inch across, and a blue gumball is $\frac{7}{9}$ inch across. List the gumballs in order from smallest to largest.

NAME _____ DATE _____ PERIOD _____

4-7 Word Problem Practice

Writing Decimals as Fractions

1. FIELD TRIP About 0.4 of a biology class will be going on a field trip. Write the decimal as a fraction in simplest form.	**2. EARTH** Eighty percent of all life on Earth is below the ocean's surface. Write 0.80 as a fraction in simplest form.
3. VENUS The planet Venus is 67.24 million miles away from the Sun. Write the decimal as a mixed number in simplest form.	**4. SATURN** If you weighed 138 pounds on Earth, you would weigh 128.34 pounds on Saturn. Write the weight on Saturn as a mixed number in simplest form.
5. MERCURY If you were 10 years old on Earth, you would be 41.494 years old on Mercury. Write the age on Mercury as a mixed number in simplest form.	**6. INTERNET** According to recent figures, 4.65 million people in the Middle East are online. Write the decimal as a mixed number in simplest form.

NAME _____ DATE _____ PERIOD _____

4-8 Word Problem Practice

Writing Fractions as Decimals

1. PLANETS The planet Mercury is roughly $\frac{2}{5}$ the size of Earth. Write the fraction as a decimal.	**2. MARBLES** Lin has a marble that is $\frac{5}{8}$ inch wide. Write the marble's width as a decimal.
3. HOMEWORK Miko has finished $\frac{5}{16}$ of her homework. Write the fraction as a decimal.	**4. EXERCISE** Tate has been dancing for $\frac{7}{10}$ of an hour. Write this fraction as a decimal.
5. SPORTS Charlie played tennis for $3\frac{3}{4}$ hours. Write the mixed number as a decimal.	**6. COOKING** A recipe calls for $2\frac{3}{4}$ cups of milk. Write the mixed number as a decimal.
7. HEIGHT Winona is $2\frac{3}{12}$ the height of her little brother. Write the mixed number as a decimal.	**8. RECESS** Jennifer has been spinning in circles for $4\frac{3}{16}$ minutes. Write the mixed number as a decimal.

NAME _____ DATE _____ PERIOD _____

4-9 Word Problem Practice

Algebra: Ordered Pairs and Functions

PHOTOGRAPHY A photography store sells black and white film. The cost of 1, 2, and 3 rolls of black and white film are shown in the table.

Black and White Film Costs	
Number of Rolls	**Cost ($)**
1	4
2	8
3	12

1. List this information as ordered pairs (number of rolls of film, cost).

2. Graph the ordered pairs. Then describe the graph.

EXERCISE The table shows the time it takes Quentin to jog 1, 2, 3, and 4 laps around the track.

Number of Times Around Track	Total Time (min)
1	5
2	10
3	15
4	20

3. List this information as ordered pairs (number of times around track, total time).

4. Graph the ordered pairs. Then describe the graph.

FOOTBALL In football, each field goal made scores 3 points. The table shows this relationship.

Field Goals Made	Total Points
0	0
1	3
2	6
3	9

5. List this information as ordered pairs (field goals made, total points).

6. Graph the ordered pairs. Then describe the graph.

JEWELRY The table gives the number of beads needed to make bracelets of lengths 7, 7.5, 8, and 8.5 inches.

Bracelet Length (in.)	7	7.5	8	8.5
Number of Beads	28	30	32	34

7. List this information as ordered pairs (bracelet length, number of beads).

8. Graph the ordered pairs. Then describe the graph.

NAME _____ DATE _____ PERIOD _____

5-1 Word Problem Practice

Rounding Fractions and Mixed Numbers

1. EXERCISE Judy walked $6\frac{5}{8}$ miles. To the nearest half mile, how many miles did she walk?	**2. ANIMALS** Maria's hamster weighs $3\frac{4}{9}$ pounds. How many pounds is this to the nearest half pound?
3. TRAVEL It is $9\frac{7}{10}$ miles from the library to the school. How many miles is this to the nearest half mile?	**4. CARPENTRY** Jan has cut a board to make a shelf. The board is $3\frac{2}{7}$ feet long. How many feet is this to the nearest half foot?
5. LUMBERING Pat needs to haul away $1\frac{3}{8}$ tons of wood from the lot. The maximum weight his pickup truck is supposed to carry is 1 ton. How many trips should Pat make to haul all the wood away? Explain.	**6. CLOTHING** Mandy is making table place mats that will take $2\frac{1}{4}$ yards of cloth. If cloth is sold in half yards, how many yards of cloth will Mandy need to buy? Explain.
7. EXERCISE Julien is preparing for a 5-mile race. He can choose from a $4\frac{7}{8}$-mile course to train on or a $5\frac{2}{5}$-mile course. Which course should he choose? Explain.	**8. CRAFTS** Marisa wants to glue her $6\frac{1}{4}$-inch by $8\frac{4}{5}$-inch painting onto foam backing. The foam backing comes in sheets that are 6 inches by 9 inches or 7 inches by 9 inches. Which sheet of foam should Marisa buy? Explain.

NAME _____ DATE _____ PERIOD _____

5-2 Word Problem Practice

Problem-Solving Investigation: Act It Out

1. BIRTHDAYS Jonah took a survey of the dates of birth in his classroom. He listed them in a stem-and-leaf plot. Which is greater for this set of data, the mode or the median?

Stem	Leaf
0	1 1 2 3 5 5 8 9
1	1 2 3 3 7 8 8
2	0 3 5 5 6 7 7 7
3	0 0 1

1|4 = 14th day of the month

2. FOOD About how much more money is spent on strawberry and grape jelly than the other types of jelly?

Yearly Jelly Sales (thousands)	
strawberry and grape jelly	$366.2
all others	$291.5

Source: Nielson Marketing Research

3. SHOPPING Jen-Li has $95 to spend on athletic shoes. The shoes she wants to buy cost $59.99. If you buy one pair, you get a second pair for half price. About how much money will she have left over if she purchases two pairs of the shoes?

4. FIELD TRIP Mrs. Samuelson had $350 to spend on a field trip for herself and 18 students. Admission was $12.50 per person and lunch cost about $5.00 per person. Write an equation to describe the amount of money left after the trip.

5. MONEY The table gives admission costs for a home improvement fair. A group of twelve people paid a total of $50 for admission. If 8 of them were children, how many people in the group were adults and how many were senior citizens?

Home Improvement Admission Costs	
Adults	$6
Children	$4
Senior Citizens	$3

6. FOOD Carmen bought $1\frac{3}{4}$ pounds of salmon, $2\frac{1}{5}$ pounds of catfish, and $\frac{2}{3}$ pound of shrimp. About how much seafood did Carmen buy?

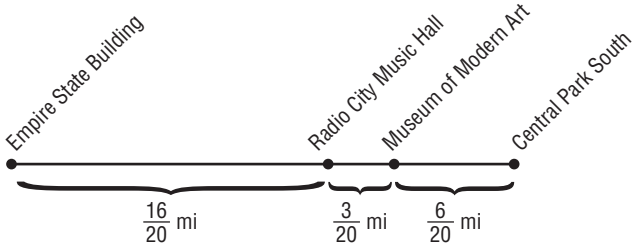
Lesson 5-2

NAME _____ DATE _____ PERIOD _____

5-3 Word Problem Practice

Adding and Subtracting Fractions with Like Denominators

MAPS For Exercises 1–3, use the drawing at the right that shows distances between major sites on the Avenue of the Americas in New York City.



Avenue of the Americas, New York City

1. Carla walked from the Empire State Building to the Museum of Modern Art. How far did she walk?	**2.** Julie walked from Central Park South to the Museum of Modern Art. Jolene walked from Radio City Music Hall to the Museum. How much farther did Julie walk than Jolene?
3. Darnell walked from Central Park South to the Empire State Building. How far did he walk?	**4.** **COOKING** Tiffany made a glass of punch from fruit juice concentrate. She used $\frac{1}{4}$ cup concentrate and $\frac{3}{4}$ cup water. How much more water than concentrate did Tiffany use?
5. **ART** Beng is creating a painting. He has $\frac{5}{8}$ of a tube of red paint and $\frac{3}{8}$ of a tube of green paint. How much more red paint does he have than green paint?	**6.** **CONSTRUCTION** Mr. Hayashi is repairing his sidewalk. He mixed $\frac{5}{9}$ pound of cement with sand and water to make concrete. The next day he mixed $\frac{7}{9}$ pound of cement with sand and water. How many pounds of cement altogether did Mr. Hayashi use?

NAME _____ DATE _____ PERIOD _____

5-4 Word Problem Practice

Adding and Subtracting Fractions with Unlike Denominators

BUSINESS For Exercises 1–4, use the table below. It lists the fractions of United States car sales held by several companies in a recent year.

Leading Car Sales in U.S.	
Company	**Fraction of Sales**
Company A	$\frac{1}{5}$
Company B	$\frac{4}{25}$
Company C	$\frac{2}{5}$
Company D	$\frac{3}{20}$

1. What fraction of the U.S. sales did Company C and Company B hold together?

2. How much greater was the fraction of the market of Company A than of Company D?

3. How much more than Company A's fraction of the market did Company C have?

4. Find the total fraction of the market that Company D and Company B hold together.

5. TRAVEL Gabriella's travel shampoo bottle holds $\frac{1}{2}$ cup of shampoo. Before leaving on vacation, she filled the bottle to the top with $\frac{1}{8}$ cup of shampoo. How much shampoo was already in the bottle?

6. EXERCISE Bill and Andy were racing to see who could run the farthest in 5 minutes. Bill ran $\frac{5}{8}$ of a mile, and Andy ran $\frac{3}{4}$ of a mile. How much farther did Andy run than Bill?

Lesson 5-4

NAME _____ DATE _____ PERIOD _____

5-5 Word Problem Practice

Adding and Subtracting Mixed Numbers

Solve. Write answers in simplest form.

1. SCHOOL Liwanu spent $2\frac{2}{5}$ hours on his math homework and $1\frac{3}{5}$ hours on his science homework. How much time did he spend doing math and science homework?	**2. FARMING** Mr. Garcia planted $4\frac{7}{8}$ acres of wheat and $1\frac{5}{8}$ acres of corn. How much more wheat did he plant than corn?
3. TRAVEL It usually takes Amalie $1\frac{3}{4}$ hours to get to her aunt's house. Due to Thanksgiving traffic, this year it took $3\frac{1}{3}$ hours. How much longer did it take this year?	**4. COOKING** Gina wants to make muffins. The recipe for blueberry muffins calls for $2\frac{3}{4}$ cups of flour. The recipe for cornmeal muffins calls for $1\frac{1}{3}$ cups of flour. How many more cups of flour would Gina need for blueberry muffins than corn muffins?
5. SCULPTURE José has $8\frac{1}{2}$ cups of Plaster of Paris powder. If José uses $5\frac{3}{5}$ cups for a sculpture, how much plaster will he have left?	**6. BOOKS** Kyle read $3\frac{5}{6}$ books and Jan read $2\frac{1}{3}$ books. How many more books did Kyle read than Jan?
7. ANIMALS The average length of a Rufous hummingbird is $3\frac{1}{2}$ inches. The average length of a Broad-tailed hummingbird is $4\frac{1}{2}$ inches. How much shorter is the Rufous hummingbird?	**8. RECYCLING** The class collected $9\frac{5}{7}$ pounds of glass bottles and $6\frac{1}{2}$ pounds of aluminum cans. How many pounds of glass and aluminum did the class collect in all?

NAME _____ DATE _____ PERIOD _____

5-6 Word Problem Practice

Estimating Products of Fractions

Estimate by using rounding or compatible numbers. Show how you found your estimates.

FOOD For Exercises 1–3, use the table. The table lists the grams of saturated fat per tablespoon of some common fats.

Grams of Saturated Fat per Tablespoon	
Safflower Oil	$\frac{4}{5}$
Olive Oil	$1\frac{4}{5}$
Butter	$7\frac{1}{5}$
Cream Cheese	$3\frac{1}{5}$

1. Jenny is making muffins. The recipe calls for 4 tablespoons of oil. If she uses safflower oil, about how many grams of saturated fat would she be adding to the muffin batter?

2. Curtis spread 2 tablespoons of butter on his slice of bread. About how many grams of saturated fat did Curtis add to the slice of bread?

3. Rubin is fond of bagels and cream cheese. He spread $5\frac{2}{3}$ tablespoons of cream cheese on his bagel and ate the bagel. About how many grams of saturated fat did Rubin eat by eating the cream cheese?

4. WATER Marcia is making a habit of drinking at least 7 cups of water a day. About how many cups of water did she drink if she drank $\frac{3}{4}$ the number of cups she wanted to drink?

5. TRAVEL Seth has been driving for $4\frac{3}{4}$ hours at 62 miles per hour. About how many miles has he driven?

6. MAIL The U.S. Postal Service delivers about 199 billion pieces of mail each year. Of this mail, $\frac{4}{5}$ is sent by big commercial users. About how many pieces of mail are sent by big commercial users each year?

NAME _____ DATE _____ PERIOD _____

5-7 Word Problem Practice

Multiplying Fractions

COOKING For Exercises 1 and 2, use the recipe for chocolate frosting.

Chocolate Frosting Recipe

$\frac{1}{3}$ cup butter

2 ounces melted unsweetened chocolate

2 cups powdered sugar

$\frac{1}{2}$ teaspoon vanilla

2 tablespoons milk

1. Georgia wants to cut the recipe for chocolate frosting in half for a small cake that she's making. How much of each ingredient will she need?

2. Suppose Georgia wanted to double the recipe; what would the measurements be for each ingredient?

3. COMPUTERS $\frac{1}{5}$ of today's college students began using computers between the ages of 5 and 8. If a college has 3,500 students, how many of the students began using computers between the ages of 5 and 8?

4. EXERCISE A paper published in a medical journal reported that about $\frac{11}{25}$ of girls ages 16 to 17 do not exercise at all. The entire study consisted of about 2,500 girls. About how many did not exercise?

5. ANIMALS Catherine walks her dog $\frac{3}{4}$ mile every day. How far does she walk each week?

6. MUSIC If you practice a musical instrument each day for $\frac{2}{3}$ of an hour, how many hours of practice would you get in each week?

NAME _____ DATE _____ PERIOD _____

5-8 Word Problem Practice

Multiplying Mixed Numbers

FOOD For Exercises 1–3, use the table. The table shows Keith's food options for a 7-day outdoor survival course.

Food Options for 7-day Outdoor Survival Course	
peanut butter	1 plastic jar = $4\frac{3}{5}$ cups
dried noodles/rice	$14\frac{2}{3}$ cups
dried fruit/nuts	$6\frac{1}{6}$ cups
concentrated juice boxes	8 boxes = $16\frac{1}{4}$ cups
beef jerky	$3\frac{1}{3}$ cups
powdered milk	1 box = $8\frac{4}{5}$ cups
dehydrated soup	5 packages = $15\frac{2}{3}$ cups
canned tuna/meat	4 cans = $5\frac{3}{5}$ cups

1. Keith wants to divide his tuna over the seven-day course. How many cups of tuna meat can Keith plan on consuming each day?

2. Keith would like to bring enough concentrated juice in order to have $2\frac{1}{4}$ cups available per day. How much juice does he need and is 8 boxes of concentrated juice enough?

3. Six other students have been advised to bring the same menu on the course. How many cups of dried fruits and nuts will the students be bringing all together?

4. MEASUREMENT Bill wants to put a large mural on a wall that is $9\frac{1}{3}$ feet long and $8\frac{1}{8}$ feet wide. Find the area of the wall. If the mural is 100 square feet, will it fit on the wall?

5. PAINTING Pam is mixing $3\frac{1}{5}$ batches of paint. If one batch calls for $2\frac{3}{4}$ tablespoons of detergent to add to the tempera powder, how many tablespoons of detergent will Pam need?

6. COOKING To make a batch of fruit punch, Steve needs $2\frac{2}{3}$ cups blackberry juice. If he wants to make $2\frac{3}{4}$ batches of punch, how many cups of blackberry juice will he need?

NAME _____ DATE _____ PERIOD _____

5-9 Word Problem Practice

Dividing Fractions

1. PIZZA Norberto has $\frac{9}{10}$ of a pizza. The pizza will be divided equally among 6 people. How much will each person get?	**2. CARPENTRY** Laura wants to cut a board into three equal pieces. The board is $\frac{5}{8}$ feet long. How long will each piece be?
3. PETS Errol uses $\frac{1}{3}$ can of wet dog food for his dog, Muddy, each day. How many servings will he get from 5 cans of dog food?	**4. ICE CREAM** Julia ate $\frac{1}{2}$ pint of mint chocolate chip ice cream. Mark ate $\frac{3}{4}$ pint of malt ice cream. How many times more ice cream did Mark eat?
5. GARDENING Talia wants to give away 6 bundles of rosemary from her herb garden. If she has $\frac{1}{2}$ pound of rosemary, how much will each bundle weigh?	**6. SCHOOL** Kirsten has $\frac{3}{4}$ hour left to finish 5 math problems on the test. How much time does she have to spend on each problem?
7. FOOD Joe has $\frac{1}{2}$ of a cake he would like to split among 3 people. What part of the cake will each person get?	**8. INTERNET** $\frac{3}{4}$ of college students use the Internet more than the library. $\frac{9}{100}$ use the library more. How many times more students use the Internet?

NAME _____ DATE _____ PERIOD _____

5-10 Word Problem Practice

Dividing Mixed Numbers

1. VIDEOTAPES Lyle is putting his videotapes on a shelf. The shelf is 12 inches long. If each videotape is $1\frac{1}{2}$ inches wide, how many videotapes can he put side-by-side on the shelf?	**2. FOOD** DeLila has $4\frac{1}{2}$ pies to divide equally among 9 people. How much will each person get?
3. GARDENING Maurice mows lawns on Saturday. Last week it took him $5\frac{1}{2}$ hours to finish. This week it took only 5 hours. How many times longer did it take last week than this week?	**4. COOKING** Chris is cutting a roll of cookie dough into pieces that are $\frac{1}{2}$ inch thick. If the roll is $10\frac{1}{2}$ inches long, how many pieces can he make?
5. SPORTS Tanya Streeter holds the world record for free-diving in the ocean. She dove 525 feet in $3\frac{1}{2}$ minutes. How many feet per minute did she dive?	**6. GARDENING** Catherine got $9\frac{3}{8}$ pounds of cherries from her tree this year. Last year she only got $6\frac{1}{4}$ pounds. How many times more pounds did she get this year than last year?
7. SEWING Jeanne has $3\frac{3}{5}$ yards of fabric. She needs $1\frac{4}{5}$ yards to make a pair of pants. How many pairs of pants can she make?	**8. EXERCISE** Del Ray can run $20\frac{1}{2}$ miles in $2\frac{1}{4}$ hours. How many miles per hour can he run?

NAME _____ DATE _____ PERIOD _____

6-1 Word Problem Practice

Ratios and Rates

1. FOOTBALL In a recent the NFL season, the Miami Dolphins won 4 games and the Oakland Raiders won 5 games. What is the ratio of wins for the Dolphins to wins for the Raiders?	**2. GARDENING** Rod has 10 rosebushes, 2 of which produce yellow roses. Write the ratio *2 yellow rosebushes out of 10 rosebushes* in simplest form.
3. TENNIS Nancy and Lisa played 20 sets of tennis. Nancy won 12 of them. Write the ratio of Nancy's wins to the total number of sets in simplest form.	**4. AGES** Oscar is 16 years old and his sister Julia is 12 years old. What will be the ratio of Oscar's age to Julia's age in 2 years? Write as a fraction in simplest form.
5. MOVIES Four friends paid a total of $32 for movie tickets. What is the ratio *$32 for 4 people* written as a unit rate?	**6. WORKING** At a warehouse, the employees can unload 18 trucks in 6 hours. What is the unit rate for unloading trucks?
7. ANIMALS A reindeer can run 96 miles in 3 hours. At this rate, how far can a reindeer run in 1 hour? Explain.	**8. SHOPPING** Jenny wants to buy cereal that comes in large and small boxes. The 32-ounce box costs $4.16, and the 14-ounce box costs $2.38. Which box is less expensive per ounce? Explain.

NAME _____ DATE _____ PERIOD _____

6-2 Word Problem Practice

Ratio Tables

For Exercises 1–4, use the ratio tables below.

Table 1

Cups of Flour	1			
Number of Cookies	30			

Table 2

Number of Books		6	
Cost in Dollars		10	

1. **BAKING** In Table 1, how many cookies could you make with 4 cups of flour?

2. **BAKING** In Table 1, how many cups of flour would you need to make 90 cookies?

3. **BOOKS** In Table 2, at this rate how many books can you buy with $5?

4. **BOOKS** In Table 2, at this rate, how much would it cost to buy 9 books?

5. **FRUIT** Patrick buys 12 bunches of bananas for $9 for the after school program. Use a ratio table to determine how much Patrick will pay for 8 bunches of bananas.

6. **HIKING** On a hiking trip, LaShana notes that she hikes about 12 kilometers every 4 hours. If she continues that this rate, use a ratio table to determine about how many kilometers she could hike in 6 hours.

NAME _____ DATE _____ PERIOD _____

6-3 Word Problem Practice

Proportions

1. FITNESS Jessica can do 60 jumping-jacks in 2 minutes. Juanita can do 150 jumping-jacks in 5 minutes. Are these rates proportional? Explain your reasoning.	**2. BAKING** A cookie recipe that yields 48 cookies calls for 2 cups of flour. A different cookie recipe that yields 60 cookies calls for 3 cups of flour. Are these rates proportional? Explain your reasoning.
3. MUSIC A music store is having a sale where you can buy 2 new-release CDs for $22 or you can buy 4 new-release CDs for $40. Are these rates proportional? Explain your reasoning.	**4. TRAVEL** On the Mertler's vacation to Florida, they drove 180 miles in 3 hours before stopping for lunch. After lunch they drove 120 miles in 2 hours before stopping for gas. Are these rates proportional? Explain your reasoning.
5. BOOKS At the school book sale, Michael bought 3 books for $6. Darnell bought 5 books for $10. Are these rates proportional? Explain your reasoning.	**6. SURVEY** One school survey showed that 3 out of 5 students own a pet. Another survey showed that 6 out of 11 students own a pet. Are these results proportional? Explain your reasoning.

NAME _____ DATE _____ PERIOD _____

6-4 Word Problem Practice

Algebra: Solving Proportions

1. SCHOOL The ratio of boys to girls in history class is 4 to 5. How many girls are in the class if there are 12 boys in the class? Explain.	**2. FACTORIES** A factory produces 6 motorcycles in 9 hours. Write a proportion and solve it to find how many hours it takes to produce 16 motorcycles.
3. READING James read 4 pages in a book in 6 minutes. How long would you expect him to take to read 6 pages?	**4. COOKING** A recipe that will make 3 pies calls for 7 cups of flour. Write a proportion and solve it to find how many pies can be made with 28 cups of flour.
5. TYPING Sara can type 90 words in 4 minutes. About how many words would you expect her to type in 10 minutes?	**6. BASKETBALL** The Lakewood Wildcats won 5 of their first 7 games this year. There are 28 games in the season. About how many games would you expect the Wildcats to win this season? Explain your reasoning.
7. FOOD Two slices of Dan's Famous Pizza have 230 Calories. How many Calories would you expect to be in 5 slices of the same pizza?	**8. SHOPPING** Andy paid $12 for 4 baseball card packs. Write a proportion and solve it to find how many baseball card packs he can purchase for $21.

Lesson 6-4

NAME _____ DATE _____ PERIOD _____

6-5 Word Problem Practice

Problem-Solving Investigation: Look for a Pattern

1. **HEIGHT** Fernando is 2 inches taller than Jason. Jason is 1.5 inches shorter than Kendra and 1 inch taller than Nicole. Hao, who is 5 feet 10 inches tall, is 2.5 inches taller than Fernando. How tall is each student?

2. **FRUIT** The table below shows the results of a survey of students' favorite fruit. How many more students like apples than bananas?

Favorite Fruit							
A	B	G	B	A	B	A	O
O	A	G	G	G	A	A	B
G	O	A	B	O	B	O	O

A = apple B = banana G = grapes
O = orange

3. **MONEY** Dominic's mother gave him $20 to go to the grocery store. If the groceries cost $12.56, how much change will he receive?

4. **BOOKS** An author has written 4 different books. Each book is available in hard bound, soft bound, and on tape. How many different items are available by this author?

5. **FOOTBALL** The varsity football team scored 24 points in last Friday's game. They scored a combination of 7-point touchdowns and 3-point field goals. How many touchdowns and how many field goals did they score?

6. **CYCLING** Jody and Lazaro are cycling in a 24-mile race. Jody is cycling at an average speed of 8 miles per hour. Lazaro is cycling at an average speed of 6 miles per hour. If they both started the race at the same time, who will finish first? How much faster will they finish the race?

NAME _____ DATE _____ PERIOD _____

6-6 Word Problem Practice

Sequences and Expressions

1. AGE There are 12 months in 1 year. If Juan is 11 years old, how many months old is he? Make a table then write an algebraic expression relating the number of months to the number of years.	**2. MEASUREMENT** There are 12 inches in 1 foot. The height of Rachel's door is 7 feet. Find the height in inches. Make a table then write an algebraic expression relating the number of feet to inches.
3. RUNNING There are 60 seconds in 1 minute. Pete can run all the way around the track in 180 seconds. Find how long it takes Pete to run around the track in minutes. Make a table then write an algebraic expression relating the number of seconds to the number of minutes.	**4. FRUIT** There are 16 ounces in 1 pound. Chanda picked 9 pounds of cherries from her tree this year. Find the number of ounces of cherries Chanda picked. Make a table then write an algebraic expression relating the number of ounces to the number of pounds.
5. SPORTS There are 3 feet in 1 yard. Tanya Streeter holds the world record for free-diving in the ocean. She dove 525 feet in $3\frac{1}{2}$ minutes. Find the number of yards she dove. Make a table then write an algebraic expression relating the number of feet to the number of yards.	**6. COOKING** There are 8 fluid ounces in 1 cup. A beef stew recipe calls for 3 cups of vegetable juice. Find the number of fluid ounces of vegetable juice needed for the recipe. Make a table then write an algebraic expression relating the number of fluid ounces to the number of cups.

Lesson 6-6

NAME _____ DATE _____ PERIOD _____

6-7 Word Problem Practice

Proportions and Equations

FITNESS For Exercises 1–3, use the following information.

Rosalia burns 250 Calories for each hour she does aerobics.

1. Make a table to show the relationship between the number of Calories c Rosalia burns doing aerobics for h hours.

2. Write an equation to find c, the number of Calories Rosalia burns in h hours.

3. If Rosalia goes to a 1-hour aerobic class 3 times a week, how many Calories will she burn each week doing aerobics?

4. MUSICALS The table below shows the admission price to the school musical. Write a sentence and an equation to describe the data.

Number of People, n	Total Admission, t
1	\$6
2	\$12
3	\$18

5. MUSICALS In Exercise 4, how much will it cost for a family of 5 to attend the musical?

6. VIDEO GAMES The table below shows the number of points earned for catching bugs in a video game. Write a sentence and an equation to describe the data.

Number of Bugs Caught, b	Total Points, t
1	25
2	50
3	75

NAME _____ DATE _____ PERIOD _____

7-1 Word Problem Practice

Percents and Fractions

1. TOYS The Titanic Toy Company has a 4% return rate on its products. Write this percent as a fraction in simplest form.	**2. MUSIC** There are 4 trombones out of 25 instruments in the Landers town band. What percent of the instruments are trombones?
3. SHOPPING Alicia's favorite clothing store is having a 30% off sale. What fraction represents the 30% off sale?	**4. FOOD** At Ben's Burger Palace, 45% of the customers order large soft drinks. What fraction of the customers order large soft drinks?
5. BASKETBALL In a recent NBA season, Shaquille O'Neal of the Los Angeles Lakers made 60% of his field goals. What fraction of his field goals did Shaquille make?	**6. SCHOOL** In Janie's class, 7 out of 25 students have blue eyes. What percent of the class has blue eyes?
7. TESTS Michael answered $\frac{17}{20}$ questions correctly on his test. What percent of the questions did Michael answer correctly?	**8. RESTAURANTS** On Saturday afternoon, $\frac{41}{50}$ telephone calls taken at The Overlook restaurant were for dinner reservations. What percent of the telephone calls were for dinner reservations?

NAME _____ DATE _____ PERIOD _____

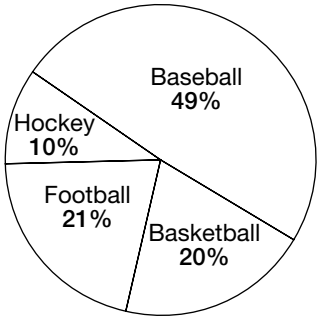
7-2 Word Problem Practice

Circle Graphs

SPORTS For Exercises 1–3, use Graph A. For Exercises 4–6, use Graph B.

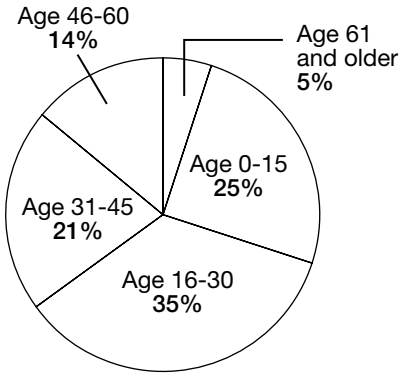
Graph A

Favorite Sports of Mr. Franco's Class



Graph B

Attendance at the Baseball Game



1. Kwan surveyed Mr. Franco's class to find out the favorite sports of the class. Which sport was the favorite of the largest percent of students in the class? Which sport was the favorite of the smallest percent of students?	**2.** Which sports were the favorite of about the same number of students?
3. Which sport is the favorite of half as many students as basketball?	**4.** Mr. Jackson kept track of attendance at the baseball game for an advertising agency. The agency wants to target its advertising to the age group that has the highest percent in attendance. To which group should the agency target ads?
5. Which two age groups have about the same percent of people?	**6.** Mr. Jackson's daughter is in the age group with the second highest percent. In which age group is Mr. Jackson's daughter?

NAME _____ DATE _____ PERIOD _____

7-3 Word Problem Practice

Percents and Decimals

1. COMMUTING According to the U.S. census, 76% of U.S. workers commute to work by driving alone. Write 76% as a decimal.	**2. BASEBALL** A player's batting average was 0.29 rounded to the nearest hundredth. Write 0.29 as a percent.
3. ELECTIONS In a recent U.S. midterm elections, 39% of eligible adults voted. What is 39% written as a decimal?	**4. BASKETBALL** In a recent season, Jason Kidd of the New Jersey Nets had a field goal average of 0.40 rounded to the nearest hundredth. What is 0.40 written as a percent?
5. SPORTS When asked to choose their favorite sport, 27% of U.S. adults who follow sports selected professional football. What decimal is equivalent to 27%?	**6. AGE** Lawrence is 18 years old and his brother Luther is 12 years old. This means that Lawrence is 1.5 times older than Luther. What percent is equivalent to 1.5?
7. WATER About 5% of the surface area of the U.S. is water. What decimal represents the amount of the U.S. surface area taken up by water?	**8. POPULATION** China accounts for 0.21 of the world's population. What percent of the world's population lives in China?

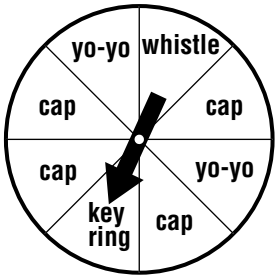
NAME _____ DATE _____ PERIOD _____

7-4 Word Problem Practice

Probability

Write each answer as a fraction, a decimal, and a percent.

PARTY For Exercises 1 and 2, the spinner shown is spun once. The spinner shows the prizes a person can win at a party.



1. What is the probability that a person will spin a cap? a whistle? a cap or yo-yo?	**2.** What is the probability that a person will spin a stuffed animal? Explain. What is the probability that a person will win a prize?
3. WEATHER The weather report says there is an 85% chance it will be very hot tomorrow. Should you get ready to use the air conditioner? Explain.	**4. EATING HABITS** 7% of Americans are vegetarians. If you ask a random person whether he or she is a vegetarian, what is the probability that the person is *not* a vegetarian? Explain.
5. SCHOOL Theresa is taking a multiple-choice test and does not know an answer. She can guess answer A, B, C, D, or E. What is the probability that Theresa will guess correctly? incorrectly?	**6. NUMBER CUBE** You roll a number cube. How likely is it that you will roll a number less than 1? less than 7? Explain.
7. FOOD Mrs. Phillips has 10 identical cans without labels. She knows that she had 1 can of peas, 5 cans of corn, 1 can of carrots, and 3 cans of beets. She opens one can. What is the probability it is carrots? corn or beets?	**8.** In Exercise 7, how likely is it Mrs. Phillips will open a can of corn? a can of peas? Explain.

NAME _____ DATE _____ PERIOD _____

7-5 Word Problem Practice

Constructing Sample Spaces

1. OUTINGS Olivia and Candace are deciding between Italian or Chinese food and then whether to go to a movie, walk in the park, or go for a bike ride. Using the Fundamental Counting Principle, how many choices do they have?	**2. PETS** Terence is going to get a parrot. He can choose among a yellow, green, or multi-colored female or male parrot. Draw a tree diagram showing all the ways Terence can choose. What is the probability he will choose a yellow female?
3. CAKE Julia is ordering a birthday cake. She can have a circular or rectangular chocolate or vanilla cake with chocolate, vanilla, or maple frosting. Draw a tree diagram showing all the possible ways Julia can order her cake. How many options does she have?	**4. GAMES** Todd plays a game in which you toss a coin and roll a number cube. Use the Fundamental Counting Principle to determine the number of possible outcomes. What is P(heads, odd number)?
5. SCHOOL Melissa can choose two classes. Her choices are wood shop, painting, chorus, and auto shop. List all the ways two classes can be chosen.	**6. SHOPPING** Kaya has enough allowance to purchase two new baseball caps from the five he likes. How many ways can he choose?

NAME _____ DATE _____ PERIOD _____

7-6 Word Problem Practice

Making Predictions

MOVIES For Exercises 1–3, use the table of results of Jeremy's survey of favorite kinds of movies.

Favorite Movie Type	
Type	**People**
Drama	12
Foreign	3
Comedy	20
Action	15

SLEEP For Exercises 4–7, use the table of results of the Better Sleep Council's survey of Americans to find the most important factors for good sleep.

Most Important Factors for Good Sleep	
Good Mattress	32
Daily Exercise	20
Good Pillows	8
Healthy Diet	11
Other Factors	29

1. **MOVIES** How many people did Jeremy use for his sample?

2. If Jeremy were to ask any person to name his or her favorite type of movie, what is the probability that it would be comedy?

3. If Jeremy were to survey 250 people, how many would you predict would name comedy?

4. **SLEEP** Predict how many people out of 400 would say that a good mattress is the most important factor.

5. What is the probability that any person chosen at random would not say that a healthy diet is the most important factor?

6. Suppose 250 people were chosen at random. Predict the number of people that would say good pillows are the most important factor.

7. What is the probability that any person chosen at random would say that daily exercise is the most important factor for a good night sleep?

8. **ICE CREAM** Claudia went to an ice cream shop to conduct a survey. She asked every tenth person who entered the shop to name his or her favorite dessert. Did Claudia select a good sample? Explain.

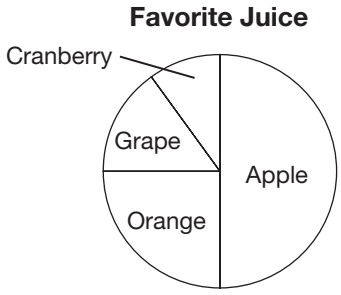
NAME _____ DATE _____ PERIOD _____

7-7 Word Problem Practice

Problem-Solving Investigation: Solve a Simpler Problem

1. **FOOD** Is $8 enough money to buy a dozen eggs for $1.29, one pound of ground beef for $3.99, and a gallon of milk for $2.09? Explain.

2. **SURVEY** The circle graph shows the results of a favorite juice survey. What percents best describe the data?



3. **MONEY** A total of 32 students are going on a field trip. Each student must pay $4.75 for travel and $5.50 for dining. About how much money should the teacher collect in all from the students?

4. **TRAVEL** Mr. Ishikawa left Houston at 3:00 P.M. and arrived in Dallas at 8:00 P.M., driving a distance of approximately 240 miles. During his trip, he took a one-hour dinner break. What was Mr. Ishikawa's average speed?

5. **BAKE SALE** Oakdale Middle School received 240 contributions for its bake sale. If 30% of the contributions were pies, how many pies did the school receive?

6. **BABYSITTING** About how much more did Cara earn babysitting in 2008 than in 2007?

Cara's Babysitting Earnings	
Year	**Earnings**
2006	$98.50
2007	$149.00
2008	$218.75

NAME _____ DATE _____ PERIOD _____

7-8 Word Problem Practice

Estimating with Percents

1. SCHOOL At Westside High School, 24% of the 215 sixth grade students walk to school. About how many of the sixth grade students walk to school?	**2. BASKETBALL** In a recent regular season the WNBA Houston Comets won 54.76% of their games. They had 42 games in their regular season. About how many games did they win?
3. SALES TAX The sales tax rate in Lacon is 9%. About how much tax would you pay on an item that costs $61?	**4. SPORTS** The concession stand at a football game served 178 customers. Of those, about 52% bought a hot dog. About how many customers bought a hot dog?
5. SLEEP A recent study shows that people spend about 31% of their time asleep. About how much time will a person spend asleep during an average 78 year lifetime?	**6. BIOLOGY** The human body is 72% water, on average. About how much water will be in a person that weighs 138 pounds?
7. MONEY A video game that originally costs $25.99 is on sale for 50% off. If you have $14, would you have enough money to buy the video game?	**8. SHOPPING** A store is having a 20% sale. That means the customer pays 80% of the regular price. If you have $33, will you have enough money to buy an item that regularly sells for $44.99? Explain.

NAME _____ DATE _____ PERIOD _____

8-1 Word Problem Practice

Length in the Customary System

1. WOODWORKING Anthony is building a toolbox with length 2 feet, width 1 foot, and height 3 feet. What are the dimensions of Anthony's box in inches?

2. TRIATHLON Julie is training for a small triathlon where she will run 3 miles, bike 10 miles, and swim 150 yards. How many yards will Julie run? How many feet will she swim?

3. WEATHER Raquel and her family are moving from Portland, Oregon, to Seattle, Washington. She is comparing annual rainfall to prepare for her move. Portland's annual rainfall is $3\frac{1}{12}$ feet. Seattle's annual rainfall is 37 inches. Which city gets more rain?

4. SEWING Abe needs 12 feet of fabric to make a bedspread. How many yards does he need?

5. TRAVEL On her trip to New York City, Celia read that the famous Woolworth building was built in 1913 and stands 792 feet tall. How high is the building in yards?

6. FOOTBALL The length of a football field is 100 yards. How many feet is that? How many inches?

7. SCHOOL Krista lives $\frac{1}{2}$ mile from school. Desiree lives 872 yards away from school. Who lives closer? Explain.

8. CRAFTS David is making a pattern for the mouth of a puppet. The mouth will be a rectangle of red felt fabric. The rectangle will be $\frac{3}{8}$ inch wide and $2\frac{1}{4}$ inches long. Draw a pattern for David.

Lesson 8-1

NAME _____ DATE _____ PERIOD _____

8-2 Word Problem Practice

Capacity and Weight in the Customary System

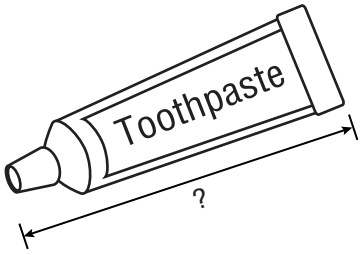
1. COOKING Sylvia is making a pot of stew that needs 1 quart of beef broth. How many cups of beef broth does she need?	**2. CANDY** Wade works at the candy shop. He wrapped 56 pieces of fudge to sell. How many total pounds of fudge did he wrap if each piece weighed 1 ounce?
3. TRUCKS Shauna's truck can handle up to 2 tons of weight. She wants to haul 3,500 pounds of wood. How many tons of wood is that? Can she haul all of it at once?	**4. GIFTS** Jason made 34 bottles of flavored olive oil to give to his class. How many pints of flavored olive oil did Jason make if each bottle holds 8 fluid ounces?
5. CIDER Mary bought five gallons of apple cider for her birthday party. She expects 20 guests. How many cups of cider will each guest get?	**6. PETS** Pam has a 4-pound bag of dry cat food. Every day she puts out 4 ounces of dry cat food for her cat. For how many days will the bag of cat food be enough to feed her cat? Explain.
7. LUNCH Suzie fills a 1-pint thermos with milk each day for lunch. How many times will she be able to fill her thermos with $\frac{1}{2}$ gallon of milk? Explain how you found your answer.	**8. COOKING** James is making a quart of won ton soup using canned chicken broth. A can of chicken broth holds 14 fluid ounces. How many cans will James need to buy? Explain how you found your answer.

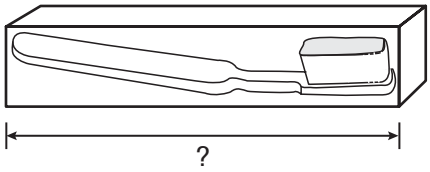
NAME _____ DATE _____ PERIOD _____

8-3 Word Problem Practice

Length in the Metric System

TRAVEL For Exercises 1 and 2, use the figures below.





1. Gabe is going on a trip to San Diego. He is taking a tube of toothpaste and a toothbrush holder. How long is the tube of toothpaste in centimeters and in millimeters?	**2.** How long is the toothbrush holder in centimeters and in millimeters?
3. SWIMMING Harry takes diving lessons at the community pool. He is trying to estimate the depth of the deepest part of the pool. Which is the most likely estimate: 3.5 centimeters, 3.5 meters, or 3.5 kilometers? Explain.	**4. INSECTS** Michaela is an entomologist, a scientist who studies insects. When she measures the length of the leg of a fly, what metric unit of measure does she most likely use?
5. SCHOOL Roshawn rides his bike $2\frac{1}{2}$ miles to and from school. What type of measurement would he use if he were to convert the distance to metric units? Explain.	**6. BRIDGES** Paula noticed an error in the following statement, "The Golden Gate Bridge in San Francisco, California, is the second longest suspension bridge in North America spanning 1,260 kilometers." What is the error Paula found? Explain.

Lesson 8-3

NAME _____ DATE _____ PERIOD _____

8-4 Word Problem Practice

Mass and Capacity in the Metric System

1. ANTS Earl has an ant farm. What metric unit of mass would Earl use to measure one of his ants?	**2. MEDICINE** Garry is taking a tablespoonful of cough syrup for his cold. What is the metric unit of measure most likely used for his recommended dosage? Estimate the amount.
3. WEIGHTLIFTING Amy does three sets of squats with 85 pounds at the gym. What metric unit of measure would Amy use to measure the weight she lifts?	**4. FISHING** Which is the most likely unit of measure Jacob finds on his fishing weights: milligram, gram, or kilogram?
5. DOGS What metric unit of mass would Toni most likely use to measure the mass of her dog?	**6. AQUARIUMS** Sage is making a fish tank out of an old 5-gallon glass water bottle. What unit of metric measure should she use to decide how much water the bottle will hold? Estimate the amount.
7. PETS Carla's dog eats 321 grams of beef chow and 410 grams of chicken chow each day. Meda's dog eats 1 kilogram of mixed chow each day. Whose dog eats more chow each day? Explain your reasoning.	**8. SHOPPING** Liquid detergent comes in 1.62-liter bottles and 1,500-milliliter bottles. Which bottle contains more detergent? Explain your reasoning.

NAME _____ DATE _____ PERIOD _____

8-5 Word Problem Practice

Problem-Solving Investigation: Use Benchmarks

1. FAMILY Malcolm took a survey of the number of cousins each student in his class has. Which is greater, the mean or mode of the data?

Stem	Leaf
0	0 0 2 3 3 5 6 8 8 9 9
1	0 0 1 1 1 2 4
2	1 3
3	4

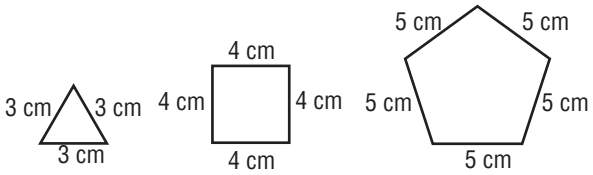
1 | 0 = 10 cousins

2. VACATION About how much more did the Roebel family spend on vacation in 2009 than in 2008?

Roebel Family Vacations	
Year	**Total Cost**
2007	$1,753
2008	$1,295
2009	$1,618

3. MEASUREMENT Garcia estimated that he takes 3 steps every 2 meters. How many steps will Garcia take for a distance of 150 meters?

4. GEOMETRY Look at the pattern. What is the perimeter of the next figure in the pattern?



5. CRAFTS Melissa has a piece of ribbon measuring 8 yards. How many pieces of ribbon each measuring $1\frac{1}{2}$ yards can be cut from the large piece of ribbon?

6. MEASUREMENT Katie has three books in her backpack. What is a reasonable estimate of the mass in kilograms of the three books and Katie's backpack?

Lesson 8-5

NAME _____ DATE _____ PERIOD _____

8-6 Word Problem Practice

Changing Metric Units

1. MEDICINE Stephanos got a travel pack of 4 aspirin, each 500 milligrams. How many total grams are in the pack?	**2. SPORTS** The Wildcats' water cooler holds 15 liters of sports drink. How many milliliters is that?
3. BAKING A box of specialty baking flour holds 2 kilograms. How many angel food cakes can be made with a recipe that calls for 100 grams of flour?	**4. WRESTLING** As a Sumo wrestler, Ishi must weigh a minimum of 70 kilograms. How many grams is that?
5. SOCCER Joey walks 4 kilometers to soccer practice. How many meters does he walk?	**6. MILK** Each week Mrs. Lopez has six 946-milliliter bottles of milk delivered to her home. How many liters is each bottle?
7. EARTH Beth's class is studying earthquakes. They learned that the Pacific plate, a huge section of the Earth's crust, moves 45 millimeters per year. How many centimeters per year is that?	**8. SNAILS** While doing a report on snails, Kay learned that the average snail moves about 0.013 meter per second. How many centimeters per second does a snail move?

NAME _____ DATE _____ PERIOD _____

8-7 Word Problem Practice

Measures of Time

1. BUS RIDES Cheryl rides the city bus to and from ballet practice. Her ride to the dance studio takes 48 minutes. Her ride home takes 1 hour 7 minutes. What is the total time Cheryl rides the bus?	**2. ECLIPSES** Heather has seen two solar eclipses; one on June 21, 2001, which took 4 min 57 s, and the other on August 11, 1999, which took 2 min 23 s. How much longer did the Sun take to complete the eclipse in 2001?
3. TRAVEL The Rosenberg family is taking a road trip. First they will drive 9 hours 53 minutes to camp in the Red Rock Canyons. Then they will drive 8 hours 21 minutes to ski near Salt Lake City. What will be their total driving time?	**4. RUNNING** The Boston Marathon course record holder in the Women's Open is Margaret Okayo. She ran the course in 2 hours 20 minutes 43 seconds. Jean Driscoll is the record holder in the Women's Wheelchair division with a time of 1 hour 34 minutes 22 seconds. How much longer did it take Okayo to finish the course?
5. BEACH Toni left at 6:45 A.M. to go surfing. She got home 7 hours and 26 minutes later. What time did she get home?	**6. HOMEWORK** James started doing his homework at 10:35 A.M. and stopped at 1:17 P.M. What was the total time he spent on homework?
7. TRAVEL Kevin is flying from San Francisco, California, to Hartford, Connecticut, with a layover in New York. His flight from California to New York will take 5 hours and 22 minutes. His flight from New York to Connecticut will take 53 minutes. What is his total flying time?	**8. PAINTING** Geri worked on her painting this morning from 10:15 A.M. to 12:32 P.M., then again in the afternoon from 4:45 P.M. to 6:30 P.M. How much total time did she spend working on her painting?

NAME _____ DATE _____ PERIOD _____

8-8 Word Problem Practice

Measures of Temperature

1. CAMPING Marlena plans on going hiking on Saturday. What is a reasonable temperature Marlena can expect while hiking?	**2. HEATING** Mr. Jung turned on the heat in their house. What is a reasonable temperature that Mr. Jung should set the thermostat?
3. FOOTBALL Teryl and his friends are going to the high school football game on Friday night. What is a reasonable temperature Teryl can expect while at the football game?	**4. BOATING** The Cortez family is taking their sailboat out on Lake Michigan this weekend. What is a reasonable temperature the Cortez family can expect while out on the Lake?
5. COOKING Logan put a thermometer in the chicken he was cooking. If the temperature reads 160, is this 160°C or 160°F?	**6. BAKING** A potato casserole recipe says to bake the casserole at a temperature of 425 for 20 minutes. Is this 425°C or 425°F?
7. WEATHER A local weather forecaster said that the temperature on Saturday will be perfect for the local golf tournament. Is the temperature more likely to be 25°C or 45°C?	**8. SCIENCE** In a science experiment, students are to first bring 1 liter of water to a boil. Just before the water began boiling, Danielle guessed that the temperature was 95°C. Her lab partner guessed that the water was 105°C. Who is correct? Explain your reasoning.

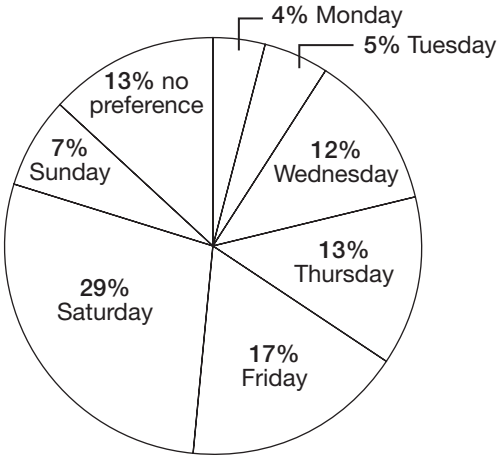
NAME _____ DATE _____ PERIOD _____

9-1 Word Problem Practice

Measuring Angles

SHOPPING For Exercises 1–3, use the circle graph that shows preferred shopping days of United States shoppers.

Preferred Shopping Days for United States Shoppers



1. Find the approximate measure of each angle formed by the sections of the circle graph.	**2.** Find the sum of the measures of the angles of the circle graph.
3. If the shoppers with no preference could be persuaded to shop on Wednesdays, what would be the new angle measure of the Wednesday section of the graph?	**4. CARPENTRY** Jorge is building a standard bookshelf. For the books to sit squarely on the shelves, will he be using obtuse, right, or acute angles when placing the shelves in the bookcase?
5. TILING Fatima is tiling her bathroom floor. She cut a square tile along one of the diagonals, dividing a right angle in half. What is the angle measure created by the diagonal and a side of the tile?	**6. PIZZA** Cody has half a pizza to share with two of his friends. What angle measure should Cody use to cut half of the pizza into three equal pieces? 

Lesson 9-1

NAME _____ DATE _____ PERIOD _____

9-2 Word Problem Practice

Estimating and Drawing Angles

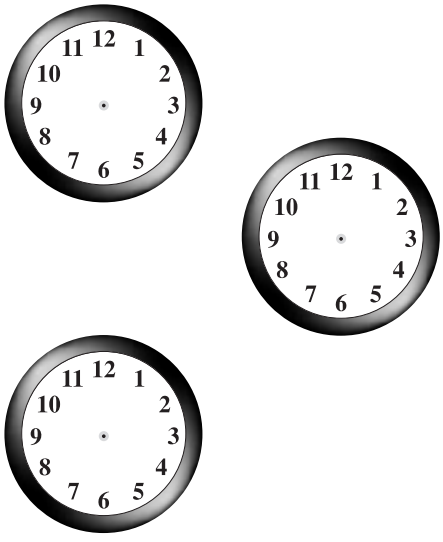
1. TIME Marissa started working on her homework at noon. Since then the minute hand has moved 180°. What time is it now?

2. BICYCLING Scott went for a bike ride. After heading east for a while he turned left 57°. Draw an angle showing Scott's route.

3. PIZZA Rene cut a pizza into eight equal slices. Draw a picture showing how Rene cut the pizza. What is the angle measure of each slice?

4. PIZZA Refer to Exercise 3. What would the angle measure be of three pieces side by side? Draw the angle.

5. CLOCKS Give examples of times when the hour hand and minute hand make a 30° angle, a 60° angle, and a 150° angle. Draw three clocks showing these times.



6. TILING Stasia has 4 pieces of tile. One angle on each piece measures 38°, 22°, 68°, and 51°. Which two pieces should she use side by side to make a right angle?

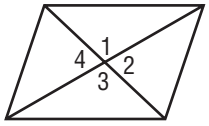
NAME _____ DATE _____ PERIOD _____

9-3 Word Problem Practice

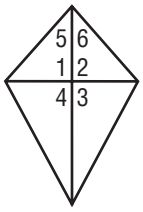
Angle Relationships

KITES For Exercises 1–6, use the designs shown below. They are the designs of two different kites that Steve is going to build.

Kite 1



Kite 2



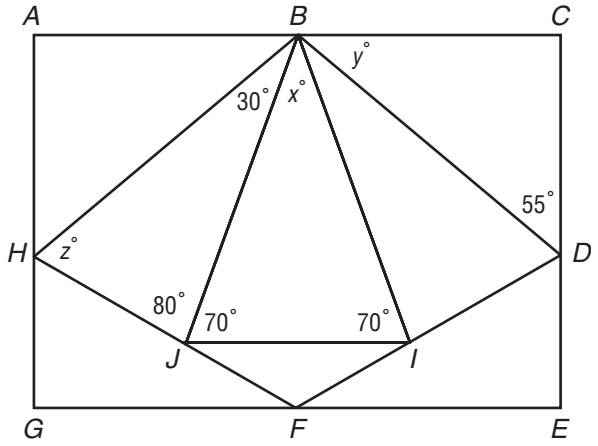
1. In Kite 1, if the measure of $\angle 1$ is 95°, what is the measure of $\angle 3$? Explain.	**2.** In Kite 1, if the measure of $\angle 2$ is 80°, what is the measure of angle $\angle 3$? Explain.
3. In Kite 1, name two pairs of supplementary angles?	**4.** In Kite 2, if the measure of $\angle 2$ is 90°, what is the measure of $\angle 4$? Explain.
5. In Kite 2, $\angle 5$ and $\angle 6$ are complementary angles. If the measure of $\angle 5$ is 45°, what is the measure of $\angle 6$?	**6.** In Kite 2, what is the sum of the measures of $\angle 1$, $\angle 2$, $\angle 3$, and $\angle 4$? Explain.

NAME _____ DATE _____ PERIOD _____

9-4 Word Problem Practice

Triangles

TILES For Exercises 1–6, use the design for a tiled kitchen backsplash.



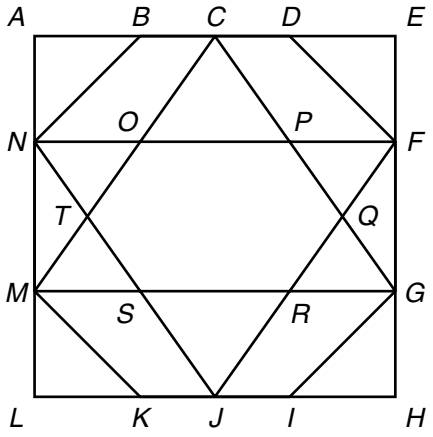
1. What is the value of x. Explain.	**2.** Classify triangle BIJ by its angles. Explain.
3. If $\angle C$ is a right angle, what is the value of y? Explain.	**4.** What is the value of z? Explain.
5. The length of side FI is 2 centimeters, the length of side FJ is 2 centimeters, and the length of side JI is 3.5 centimeters. Classify triangle JIF by its sides.	**6.** The length of side BD is 7 centimeters, the length of side DI is 4 centimeters, and the length of side BI is 6 centimeters. Classify triangle BDI by its sides.

NAME _____ DATE _____ PERIOD _____

9-5 Word Problem Practice

Quadrilaterals

STAINED GLASS For Exercises 1–6, use the design for a stained glass window shown.



1. Find and name two triangles in the design.	**2.** Is there a regular quadrilateral in the design? If so, where is it?
3. Find and name a trapezoid in the design.	**4.** Can you find a parallelogram in the design? Identify it.
5. Is the pentagon *CQRST* a regular pentagon? Explain.	**6.** If the perimeter of the window is 8 feet, what is the length of each side? How do you know?

COMMON OBJECTS For Exercises 7 and 8, use the list of polygons you see on a regular basis.

door	**stop sign**
textbook cover	**vinyl album cover**
computer screen	**CD case**

7. Which object on the list is *not* a quadrilateral?	**8.** Are there any objects on the list that are regular? If so, what are they? Explain.

Lesson 9-5

NAME _____ DATE _____ PERIOD _____

9-6 Word Problem Practice

Problem-Solving Investigation: Draw a Diagram

1. TIME School is out at 3:30 P.M., swimming practice is $1\frac{1}{2}$ hours, dinner takes 30 minutes, and you go to bed at 9:30 P.M. How much free time will you have if you study for 2 hours for a math exam?

2. POPULATION Did more people live in Austin and Fort Worth combined than in Dallas? Explain.

Five Largest Texas Cities	
City	**Population**
Houston	2,012,626
San Antonio	1,236,249
Dallas	1,210,393
Austin	681,804
Fort Worth	603,337

3. GEOMETRY A kite has two pairs of congruent sides. If two sides are 56 centimeters and 34 centimeters, what is the perimeter of the kite?

4. MONEY Chad has 8 coins in his pocket that total $1.85. He only has quarters and dimes. How many of each coin does Chad have?

5. PATTERNS A number is doubled and then 9 is subtracted. If the result is 15, what was the original number?

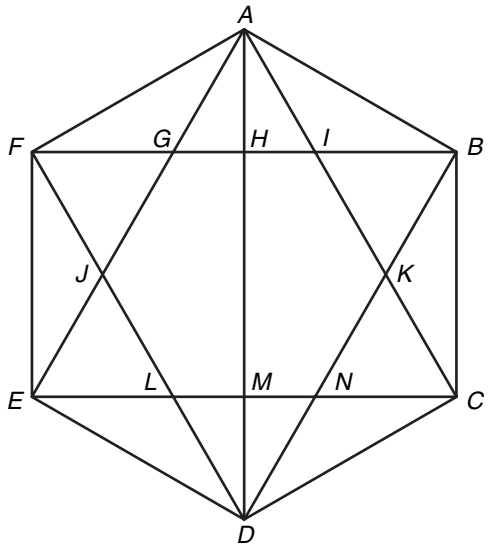
6. FURNITURE A furniture store sells one type of sofa in tan, navy blue, red, or plaid. It is also available with or without a sofa bed. In how many different ways can this sofa be ordered?

NAME _____ DATE _____ PERIOD _____

9-7 Word Problem Practice

Similar and Congruent Figures

TILING For Exercises 1–6, use the following information. Amy is using the design at the right to tile a hexagon-shaped floor. Before deciding which colors to use, she wants to identify all similar and congruent shapes.



1. Suppose Amy cut a red tile the size of $\triangle ACE$. What other triangle in the design would that tile fit? In other words, what triangle is congruent to $\triangle ACE$?	**2.** Amy is looking for congruent quadrilaterals that are neither squares nor rectangles. Can you identify them?
3. Find a triangle that is similar to but not congruent to $\triangle BCK$.	**4.** Amy's friend suggested that she cut four congruent white triangular tiles and place them in the design so that they are not overlapping and do not share common sides. Is that possible? If so, name the four triangles.
5. Can you help Amy find a shape that is either similar or congruent to *AKDJ*?	**6.** Is the hexagon *GIKNLJ* similar to *ABCDEF*? How do you know?

Lesson 9-7

NAME _____ DATE _____ PERIOD _____

10-1 Word Problem Practice

Perimeter

1. GEOGRAPHY The state of Colorado is nearly rectangular. It is about 589 kilometers by 456 kilometers. What is the approximate perimeter of Colorado?	**2. FRAMING** How many inches of matting are needed to frame an 8 inch by 11 inch print?
3. GARDENING Jessica wants to put a fence around her 10.8 foot by 13 foot rectangular garden. How many feet of fencing will she need?	**4. SEWING** Amy is making pillows to decorate her bed. She is going to make three square pillows that are each 2 feet by 2 feet. She wants to use the same trim around each pillow. How many feet of trim will she need for all three pillows?
5. JOGGING Before soccer practice, Jovan warms up by jogging around a soccer field that is 100 yards by 130 yards. How many yards does he jog if he goes around the field four times?	**6. POSTER** Ted is making a stop sign poster for a talk on safety to a first grade class. He will put a strip of black paper around the perimeter of the stop sign. Each of the stop sign's eight sides is 16 inches. How long a strip of paper will he need?
7. FLAG Jo is making a triangular banner. Each of the three sides is $14\frac{2}{3}$ inches long. If she puts a braided trim around the banner, how much trim will she need?	**8. PYRAMIDS** The Great Pyramid at Giza, Egypt, has a square base, with each side measuring 250 yards. If you could walk once all the way around the pyramid at its base, how far could you walk? Explain.

NAME _____ DATE _____ PERIOD _____

10-2 Word Problem Practice

Circles and Circumference

AUDIO MEDIA For Exercises 1–3, use the table that shows the sizes of three main audio media: vinyl, CD, and mini-disc.

Diameters of Audio Media	
Medium	**Diameter (inches)**
Vinyl Disc	12
Compact Disc (CD)	5
Mini Compact Disc (Mini-disc)	2.5

1. Estimate the circumference of a CD.

2. When a record player needle is placed on the outside edge of a vinyl disc, find how far the needle travels in one rotation. Use 3.14 for π. Round to the nearest tenth.

3. What is the difference between the circumference of a vinyl disc and a mini-disc? Use 3.14 for π. Round to the nearest tenth.

4. CROP CIRCLES On June 8, 1992, a crop circle with an 18-meter radius was found in a wheat field near Szekesfehervar, 43 miles southwest of Budapest. Estimate its circumference.

5. SEQUOIAS The largest living thing in the world is the General Sherman sequoia in Sequoia National Park, California. It is 272 feet high, has a diameter of 36.5 feet, and has an estimated weight of 2,150 tons. Find the sequoia's circumference to the nearest tenth of a foot. Use 3.14 for π.

6. MONSTER TRUCKS A monster truck fleet uses 23 degree tires 66 inches tall, 43 inches wide, mounted on 25-inch diameter wheels. What is the circumference of a monster truck wheel to the nearest tenth of an inch? Use 3.14 for π.

NAME _____ DATE _____ PERIOD _____

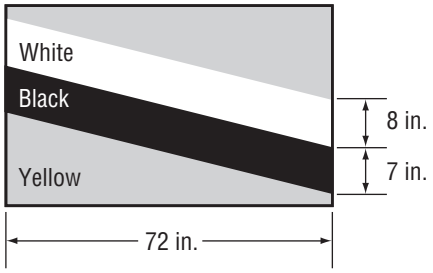
10-3 Word Problem Practice

Area of Parallelograms

1. SUNFLOWERS Norman is a sunflower farmer. His farm is in the shape of a parallelogram with a height measuring 3.5 kilometers and a base measuring 4.25 kilometers. What is the total land area Norman uses?

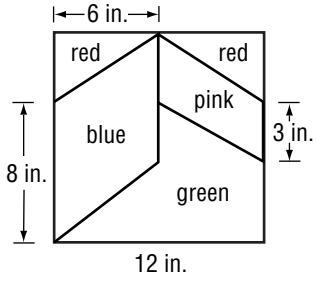
2. VOLLEYBALL Ella and Veronica are in charge of making a banner for the volleyball game this Saturday. How much poster paper will they need for a parallelogram-shaped banner with height $3\frac{1}{2}$ feet and base $6\frac{1}{4}$ feet?

3. FLAGS Joseph is painting the flag of Brunei (a country in Southeast Asia) for a geography project at school. How many square inches will he cover with white paint?



4. FLAGS Use the flag from Exercise 3. How many square inches will Joseph cover with black paint?

5. QUILTING The pattern shows the dimensions of a quilting square that Sydney will use to make a quilt. How much blue fabric will she need? Explain how you found your answer.



6. QUILTING Use the quilting pattern from Exercise 5. How much pink fabric will Sydney need?

NAME _____ DATE _____ PERIOD _____

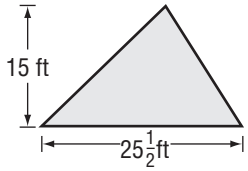
10-4 Word Problem Practice

Area of Triangles

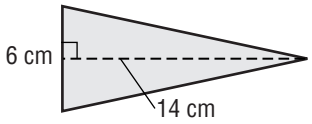
1. CARPETING Courtney wants to carpet part of her bedroom that is shaped like a right triangle with base 4.8 meters and height 5.2 meters. How much carpet will she need?

2. LAWN Mrs. Giuntini's lawn is triangle-shaped with a base of 25 feet and a height of 10 feet. What is the area of Mrs. Giuntini's lawn? Explain how you found your answer.

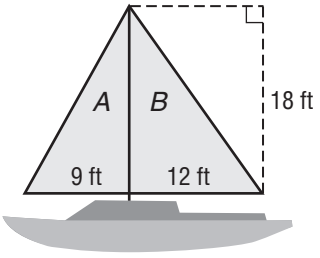
3. BUILDING Norma has an A-frame cabin. The back is shown below. How many square feet of paint will she need to cover the back of the cabin?



4. SNACKS The dough that will be used to make a pig in a blanket is shown below. Before it is rolled around a sausage, it is brushed with vegetable oil. What is the area that needs to be covered with oil? Explain how you found your answer.



5. SAILING Daniel just bought a used sailboat with two sails that need replacing. How much sail fabric will Daniel need if he replaces sail A?



6. SAILING Use the picture from Exercise 5. How much sail fabric will Daniel need if he replaces sail B?

NAME _____ DATE _____ PERIOD _____

10-5 Word Problem Practice

Problem-Solving Investigation: Make a Model

1. VIDEO GAMES The table shows the prices of 4 different video games. If Jaleesa got $50 for her birthday and she wants to buy 2 video games with the money, what are two possible games she can buy?

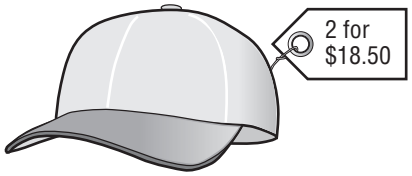
Video Game Prices	
Super Hero	$24.60
Princess Castle	$32.20
Batter-Up Baseball	$18.75
Money for Nothing	$28.50

2. ROLLER COASTERS The list below shows how many roller coaster rides 20 kids rode at an amusement park.

5 10 0 12 8 7 2 6 4 1
0 6 3 11 5 9 13 8 14 3

Make a frequency table to find how many more kids rode roller coasters 5 to 9 times than 10 to 14 times.

3. SHOPPING How many hats can be purchased with $90 if the hats can only be bought in pairs?



4. MONEY Lorenzo bought a CD player for $9 less than the regular price. If he paid $32, what was the regular price?

5. MONEY Brady collected $2 from each student to buy a gift for their teacher. If 27 people contributed, how much money was collected?

6. GAMES Sara tosses a beanbag onto an alphabet board. It is equally likely that the bag will land on any letter. Find the probability that the beanbag will land on one of the letters in her name.

NAME _____ DATE _____ PERIOD _____

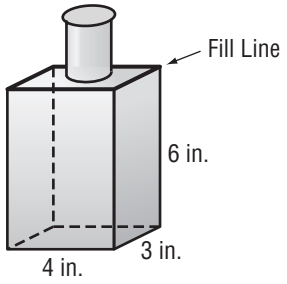
10-6 Word Problem Practice

Volume of Rectangular Prisms

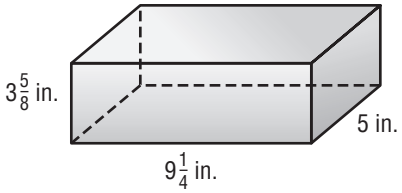
1. OLYMPICS Olympic gold medal winner Ian Thorp competes in a pool with required dimensions 25 meters by 50 meters by 2 meters. What is the volume of the Olympic-sized pool? Explain how you found your answer.

2. DUMP TRUCKS Raphael drives a standard-sized dump truck. The dimensions of the bed of the truck are length 15 feet, width 8 feet, and height 6 feet. What is the volume of the bed of the dump truck?

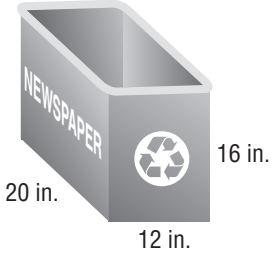
3. GIFTS William has some antique bottles. He is going to fill the bottles with bath soap and give them away as gifts. Use the figure to find the volume up to the fill line of a bottle.



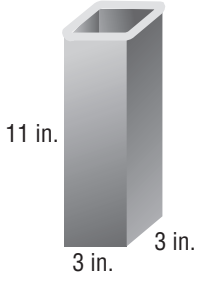
4. JEWELRY Janine keeps her jewelry in a jewelry box like the figure below. Find the volume of Janine's jewelry box.



5. RECYCLING The town of Riverview provides a rectangular recycling bin for newspapers to each household. What is the greatest volume of newspapers the recycling bin can hold?



6. CANDLE MAKING Kyle will fill the candle mold with liquid candle wax. Find the amount of liquid wax that will be contained in the mold. Explain how you found your answer.



Lesson 10-6

NAME _____ DATE _____ PERIOD _____

10-7 Word Problem Practice

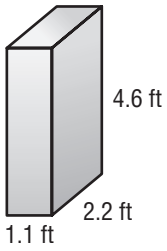
Surface Area of Rectangular Prisms

1. GIFTS Fatima is wrapping a gift box for her nephew's birthday. The box's dimensions are 16 inches long by 10 inches wide by 5 inches high. What is the surface area of the box?

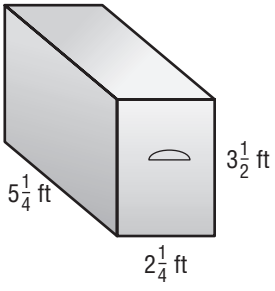
2. FOOD Antoine is wrapping a block of cheese that is 22 centimeters long by 6 centimeters high by 10 centimeters wide with plastic wrap. What is the surface area of the cheese block?

3. PAINTING Kyle is painting the front door of his house. The dimensions of the door are 80 inches by 36 inches by 2 inches. If he paints all of the surfaces, how much area will he paint? Explain.

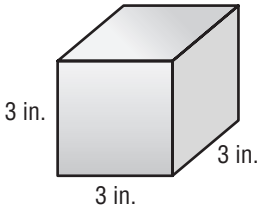
4. CARPENTRY Bryan is sanding a set of speaker boxes that he built for his room. What is the surface area of each box?



5. CARPENTRY Cindy is putting oak veneer (thin wood covering) on the entire surface of her hope chest. How much veneer will she need?



6. TOY MAKING Trey is covering blocks of wood with wallpaper to make building blocks for his baby sister. If he covers all the surfaces, how much wallpaper will he need? Think of a short way to solve this problem and explain.



NAME _____ DATE _____ PERIOD _____

11-1 Word Problem Practice

Ordering Integers

1. BUSES Melanie, Byron, and Chin are all waiting at the bus stop. Melanie's bus leaves at 10 minutes after noon. Byron's bus leaves at 15 minutes before noon. Chin's bus leaves at 5 after noon. Arrange the three according to who will leave the bus stop first.

2. INTERNET Darnell pays for 500 minutes of Internet use a month. The table indicates his Internet usage over the past 4 months. Positive values indicate the number of minutes he went over his allotted time and negative values indicate the number of minutes he was under. Arrange the months from least to most minutes used.

Month	Time
June	−20
July	65
August	−50
September	20

3. GOLF In a golf match, Jesse scored 5 over par, Neil scored 3 under par, Felipo scored 2 over par, and Dawson scored an even par. Order the players from least to greatest score.

4. WEATHER The table shows the average normal January temperature of four cities in Alaska. Compare the temperatures of Barrow and Fairbanks, using $<$ or $>$.

City	Temperature (°F)
Anchorage	15
Barrow	−13
Fairbanks	−10
Juneau	24

5. WEATHER Use the table in Exercise 4. Compare the temperatures of Anchorage and Fairbanks using $<$ or $>$.

6. WEATHER Use the table from Exercise 4. Write the temperatures of the four cities in order from highest to lowest temperature.

NAME _____ DATE _____ PERIOD _____

11-2 Word Problem Practice

Adding Integers

1. GAME To play a game on a game board, Drew puts his game piece on START. On his first turn, he moves his game piece ahead 7 spaces. On his second turn, Drew moves his game piece back 4 spaces. How many spaces away from START is his game piece now?	**2. GAME** Frita's game piece is on square 24 of a game board. She draws a card that says, "Move back 4 spaces." Then she draws a card that says, "Move back 2 spaces." On which square is Frita's game piece now?
3. WEATHER The temperature outside is 0°F. If the temperature drops 14° overnight, what was the overnight low temperature?	**4. WEATHER** The temperature outside is −16°F. Then the temperature rises 20 degrees. What is the current outdoor temperature?
5. ANIMALS An ant crawls 14 centimeters down into an ant hole. It then crawls 6 centimeters up to the queen's nest. Write and solve an addition sentence that gives the location of the ant.	**6. ANIMALS** Monarch butterflies travel an average of about 15 feet off the ground. One butterfly flies to a height of 22 feet. Tell how much higher it flies than average.
7. ANIMALS Pacific salmon swimming up the Columbia River travel 2 feet under water. Suppose one salmon darts 3 feet up and out of the water. How far out of the water did the salmon jump?	**8. ANIMALS** Plankton (microscopic animals) float on the top of a pond at night to feed. They drop to the bottom of the pond during the day. Express their daytime location as a negative number if the top of the pond is at sea level and the pond is 4 feet deep.

NAME _____ DATE _____ PERIOD _____

11-3 Word Problem Practice

Subtracting Integers

MONEY For Exercises 1–4, use the transaction register.

A transaction register is used to record money deposits and withdrawals from a checking account. It shows how much money Mandy, a college student, had in her account as well as the 4 checks she has written so far.

Check No.	Date	Description of Transaction	Payment	Deposit	Balance
	9/04	spending money from parents		$500	$500
1	9/07	college bookstore — textbooks	$291		
2	9/13	graphing calculator	$99		
3	9/16	bus pass	$150		
4	9/24	Charlie's Pizza	$12		

1. Subtract each withdrawal to find the balance after each check was written. If Mandy spends more than $500, record that amount as a negative number.

2. Which check did Mandy write that made her account overdrawn?

3. Mandy called home and asked for a loan. Her parents let her borrow $500. What is her balance now?

4. After her parents let her borrow the $500 from Exercise 3, Mandy wants to spend $300 on clothes and $150 on decorations for her dorm room. Does she have enough money in the bank? Express her balance with an integer if she buys these items.

5. WEATHER At 2 P.M., the temperature was −9°F. If the temperature drops 20 degrees, what is the new temperature?

6. BASKETBALL During a high school basketball game, the home team scored 51 points and the opponents scored 62 points. What is the point differential (the difference between the number of points scored by a team and its opponent) for the home team?

Lesson 11-3

NAME _____ DATE _____ PERIOD _____

11-4 Word Problem Practice

Multiplying Integers

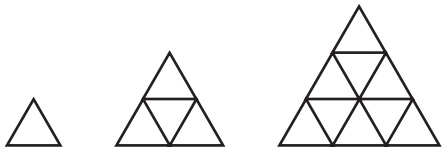
1. BASKETBALL A basketball player who makes a basket scores 2 points for her team. Tanya made 9 baskets in the game. Write a number sentence to show many points she scored for her team.	**2. HEALTH** Jim was recovering in the shade from a walk in the hot desert. His temperature dropped 2°F each hour for 2 hours. What was the total change in his temperature?
3. WEATHER The outside temperature is −3°F and falling at a rate of 2 degrees per hour. What will the temperature be in 5 hours?	**4. POPULATION** A small town is losing residents at a rate of 24 residents per year. If this pattern continues for 5 years, what will be the change in relation to the original population?
5. SCIENCE A pebble falls into a pond. From the surface, it descends at a rate of 2 feet per second. Where is the pebble in relation to the surface of the pond after 5 seconds?	**6. CONSTRUCTION** A construction company is starting to excavate a hole for a new underground parking garage. If the company excavates 3 feet every hour for 4 hours, what will be the depth of the hole in relation to the surface?
7. WEATHER The outside temperature is −20°F and rising at a rate of 5 degrees per hour. How long will it be before the temperature reaches 0°F?	**8. SCIENCE** For each kilometer above Earth's surface, the temperature decreases 7°C. If the temperature at Earth's surface is −8°, what will be the temperature 7 kilometers above the surface?

NAME _____ DATE _____ PERIOD _____

11-5 Word Problem Practice

Problem-Solving Investigation: Work Backward

1. PATTERNS How many triangles are in the bottom row of the fifth figure of this pattern?



2. POPULATION How many more people lived in Los Angeles than in Houston in 2004?

Five Largest U.S. Cities in 2004	
City	**Population**
New York, NY	8,104,079
Los Angeles, CA	3,845,541
Chicago, IL	2,862,244
Houston, TX	2,012,626
Philadelphia, PA	1,470,151

3. BASEBALL CARDS Jamal has 45 baseball cards. He is collecting 5 more cards each month. Alicia has 30 baseball cards, and she is collecting 10 more each month. How many months will it be before Alicia has more cards than Jamal?

4. FOOD Is $9 enough money to buy a loaf of bread for $0.98, one pound of cheese for $3.29, and one pound of lunch meat for $4.29? Explain.

5. MEASUREMENT If there are 8 fluid ounces in 1 cup, 2 cups in 1 pint, 2 pints in 1 quart, and 4 quarts in 1 gallon, how many fluid ounces are in 1 gallon?

6. GIFT GIVING Alita, Alisa, and Alano are sharing the cost of their mother's birthday gift, which costs $147. About how much money will each child need to contribute?

Lesson 11-5

NAME _____ DATE _____ PERIOD _____

11-6 Word Problem Practice

Dividing Integers

1. SKATING Judges in some figure skating competitions must give a mandatory 5-point deduction for each jump missed during the technical part of the competition. Marisa has participated in 5 competitions this year and has been given a total of −20 points for jumps missed. How many jumps did she miss?	**2. SKATING** Miranda is an excellent spinner who averages +3 points on her spins during competitions. Last year her total spin points equaled +21. About how many spins did she successfully complete?
3. WEATHER The temperature dropped 32°F in 4 hours. Suppose the temperature dropped by an equal amount each hour. What integer describes the change?	**4. SKATING** Dan's scores for speed this season are −1, −3, 1, −1, −2, 0. What is his average speed score for the season? (*Hint*: The average is the sum of the points divided by the number of scores.)
5. FOOTBALL A football team was penalized 30 points in 3 plays. Suppose the team was penalized an equal number of yards on each play. Write an integer that gives the yards for each penalty.	**6. BASKETBALL** A team scored a total of 27 points for three-point field goals in the season. How many 3-point field goals did they make?
7. TRACK Anna and Sara both ran 5 laps of a race. When Anna finished, Sara was 15 meters behind Anna. Suppose Sara fell behind the same number of meters during each lap. Write an integer that describes how far Sara fell behind in each lap.	**8. BAKING** Maria was penalized a total of 12 points in 6 baking contests for not starting on time. Suppose she was penalized an equal number of points at each competition. Write an integer that describes the penalty during each contest.

NAME _____ DATE _____ PERIOD _____

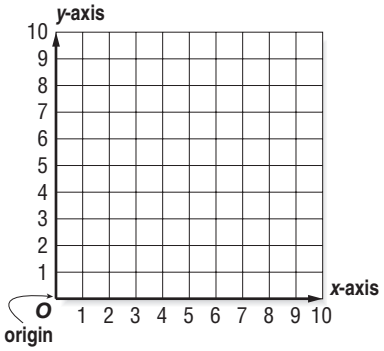
11-7 Word Problem Practice

The Coordinate Plane

MONEY For Exercises 1–4, use the table and the coordinate plane.

School buttons sell for $2 each. When you have completed the table and the graph, both the table and graph will show the costs of purchasing up to 5 school buttons.

Number of Buttons Sold	Price ($)
1	
2	
3	
4	
5	



1. Now complete the second column of the table by writing the cost of each number of buttons.

2. To prepare to graph the data, make a list of ordered pairs from the table.

3. Graph the ordered pairs. Label each point with its ordered pair. Describe the graph of the points.

4. Describe the coordinate plane that you have completed. How is it different from other systems you have used?

5. **TRACK** If it takes Trixie 8 minutes to run a mile, then $8m$ represents her total time where m is the number of miles she has run. List the ordered pairs (number of miles, total time) for 0, 1, 2, and 3 miles.

6. **TRACK** If you were to graph the ordered pairs from Exercise 5, what would their graph look like?

NAME _____ DATE _____ PERIOD _____

11-8 Word Problem Practice

Translations

1. PICNIC TABLE After moving a picnic table at a shelter, the coordinates of its corners are (3, 4), (−2, 4), (3, 2) and (−2, 2). If the picnic table was moved 3 units left and 4 units up, what were the original coordinates of the picnic table?	**2. CAMPING** The Larsons' tent corners have the coordinates (0, 5), (5, 5), (5, 0), (0, 0). They want to move it 5 units right and 2 units up. What are the new coordinates of the tent corners?
3. FLOWER BEDS Jeanne's flower bed has the following coordinates for its corners: (−1, 2), (−1, −2), (2, −2), (2, 2). She wants to move it 3 units left and 2 units up. What are the coordinates of the corners of the new flower bed?	**4. BASEBALL** The corners of home plate are now at (0, 0), (1, 0), (1, 1), and (0, 1). It was moved 2 units right and 3 units down from its previous position. What are the original coordinates of home plate?
5. LOGOS A company is designing a logo that uses a triangle. The triangle's corners has coordinates (3, 4), (−2, −2) and (5, −1). They decide to move the triangle left 2 units and up 4 units. What are the new coordinates of the corners of the translated triangle?	**6. T-SHIRTS** The final position of a T-shirt design has corners at (2, 3), (−5, 1) and (4, 0). This is a translation of 4 units left and 3 units down from the original position. What were the coordinates of the original corners?

NAME _____ DATE _____ PERIOD _____

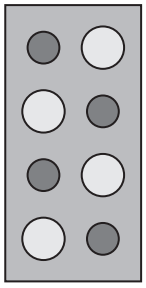
11-9 Word Problem Practice

Reflections

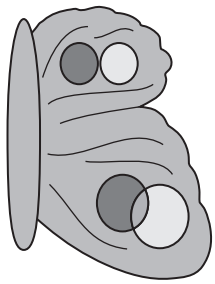
1. FURNITURE After moving a couch, the coordinates of its corners are (2, 5), (5, 5), (5, −3) and (2, −3). If the couch was reflected over the x-axis, what were the original coordinates of the couch?

2. CHALK Chrissy is drawing a chalk design on the sidewalk. The corners have coordinates (3, 5), (−1, 2), and (0, −5). She wants to reflect it over the y-axis. What are the new coordinates on the artwork corners?

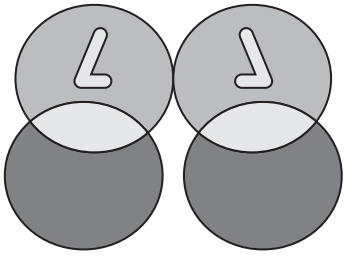
3. ARTWORK Ling's artwork uses reflections. The right half of her artwork is shown. Copy the design and draw the entire artwork after it has been reflected over a vertical line.



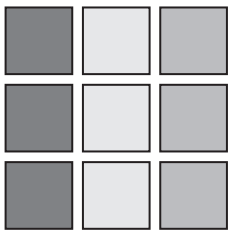
4. BUTTERFLIES Half of a butterfly is shown. The other half can be drawn by reflecting it over a vertical line. Copy the butterfly and draw the entire butterfly after it has been reflected over a vertical line.



5. BOWLING SHIRTS The design for the school's bowling team shirts is shown. Describe the transformation that was used to create the design.



6. TILING A floor tile design is shown below. Describe the transformation that was used to create the design.

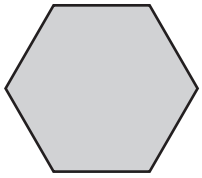


NAME _____ DATE _____ PERIOD _____

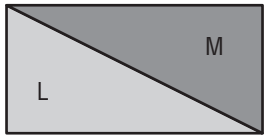
11-10 Word Problem Practice

Rotations

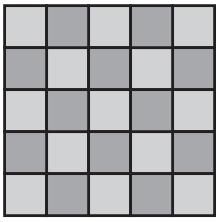
1. JEWELERY Does the jewel shown have rotational symmetry? If yes, what is the angle of rotation?



2. LOGOS Does the logo shown have rotational symmetry? If yes, what is the angle of rotation?

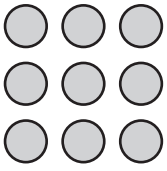


3. QUILTS Does the quilt shown have rotational symmetry? If yes, what is the angle of rotation?



4. BUTTERFLIES Does the butterfly shown have rotational symmetry? If yes, what is the angle of rotation?

5. ART Does the artwork shown have rotational symmetry? If yes, what is the angle of rotation?



6. FLOWERS Does the flower shown have rotational symmetry? If yes, what is the angle of rotation?

NAME _____ DATE _____ PERIOD _____

12-1 Word Problem Practice

The Distributive Property

1. SEATING The Valley High School Auditorium is able to seat 8 elementary school groups of 65 students. Use the Distributive Property to determine how many students they can seat.

2. SHOPPING Five friends each buy a shirt that costs x dollars and a pair of shoes that cost $24.00. Write an expression to show how much total money they spent. Then rewrite the expression using the Distributive Property.

For Exercises 3 and 4, use the table that shows the number of seats available on various types of aircrafts.

Aircraft	Number of Seats
737	150
757	183
767	250
MD-88	142
777	268

3. SEATS How many total seats will the airline gain by purchasing three more of both the 737 aircrafts and MD-88 aircrafts?

4. PASSENGERS How many more people can sit on four 777 aircrafts than on four 767 aircrafts?

5. CARS A rental company buys 7 more compact cars for $8,500 each and 7 more midsize cars for $12,500 each. How much total money will they spend?

6. BAKING A baking company charges $1.75 per slice for baking and $0.35 per slice for decorating. How much would a decorated cake cost containing 150 slices?

NAME _____ DATE _____ PERIOD _____

12-2 Word Problem Practice

Simplifying Algebraic Expressions

1. AMUSEMENT PARKS Four friends went to a local amusement park. Three of the friends bought ride tickets for x dollars, plus a game pass for $10. The other friend bought just a ride ticket. Write and simplify an expression showing the amount of total money spent.

2. ALGEBRA Translate and simplify the expression: the sum of fifteen and a number plus twelve. Justify your steps.

3. AGE Julianna is x years old. Her sister is 2 years older than her. Her mother is 3 times as old as her sister. Her Uncle Rich is 5 years older than her mother. Write and simplify an expression representing Rich's age.

4. REASONING In the expression 30 + 40 + 70, Jillian added 30 and 40 and then 70, while Samuel added 30 and 70 and then 40. Who is correct? Explain your reasoning.

ICE CREAM **For Exercises 5 through 8, use the following information provided in the table.**

Toppings	Cost
Ice Cream (Scoop)	x dollars
Sprinkles	$0.25
Hot Fudge	$0.75
Whipped Cream	$0.50
Nuts	$0.35

5. Ten kids each order a scoop of ice cream. Five of the kids add sprinkles, 3 add nuts, and 2 add nothing extra. Write and simplify an expression that represents the total cost.

6. Write and simplify an expression that represents the total cost of ordering nuts on a scoop of ice cream and then adding hot fudge.

7. Three friends went for ice cream. Two ordered a scoop with whipped cream, and the other one ordered a scoop with everything. Write and simplify an expression that represents the total cost.

8. Two people order ice cream. The first one orders two scoops plus sprinkles, and the second one orders three scoops. Write and simplify an expression showing the total cost.

NAME _____ DATE _____ PERIOD _____

12-3 Word Problem Practice

Solving Addition Equations

1. BIRTHDAYS Alberto's birthday is 7 days after Corey's birthday. Alberto's birthday is on the 9th. Write and solve an equation to find the day of Corey's birthday.	**2. AGE** Jason and Megan are brother and sister. Jason is 4 years older than Megan. If Jason is 16 years old, write and solve an equation to find Megan's age.
3. PAPER AIRPLANES Rebecca and Ricardo are both testing their paper airplanes. Rebecca's plane flew 6 feet farther than Ricardo's plane. If Rebecca's plane flew 10 feet, write and solve an equation to find how far Ricardo's plane flew.	**4. BASEBALL CARDS** Ren and Chet have just started collecting baseball cards. Ren has 13 more baseball cards than Chet. Ren has 27 cards. Write and solve an equation to find how many baseball cards Chet has.
5. SKATING Susan and Ruby went skating. Ruby skated 30 minutes longer than Susan. If Ruby skated for 45 minutes, write and solve an equation to find how long Susan skated.	**6. STUNT FLYER** A stunt airplane is flying at 150 feet. It ascends to 325 feet. Write and solve an equation to find the change in altitude of the airplane.
7. SAVINGS Oscar is saving money to buy a jacket that costs $47. He has already saved $25. Write and solve an equation to find how much more money Oscar needs to save.	**8. RECYCLING** Bonnie has 27 more cans than Jackie. If she has 56 cans, write and solve an equation to find how many cans Jackie has.

NAME _____ DATE _____ PERIOD _____

12-4 Word Problem Practice

Solving Subtraction Equations

1. BIRDS A house cat, Sophie, scared away 5 birds when she arrived on the porch. If 3 birds remain, write and solve an equation to find how many birds were on the porch before Sophie arrived.	**2. APPLES** David brought apples to school one day. After giving one to each of his 5 closest friends, David had 6 apples left. Write and solve an equation to find how many apples David brought to school.
3. BASKETBALL The basketball team is practicing after school. Four students have to leave early. If 12 basketball players remain, write and solve an equation to find how many students are on the basketball team.	**4. MARBLES** Virginia's mother gave her marbles for her birthday. Virginia lost 13 of them. If she has 24 marbles left, write and solve an equation to find how many her mother gave her.
5. MONEY Claudio went for a walk. While he was walking, $1.35 fell out of his pocket. When he returned home, he counted his money and had $2.55 left. Write and solve an equation to find how much money was in Claudio's pocket when he started his walk.	**6. HANG GLIDING** Aida was hang gliding. After losing 35 feet in altitude, she was gliding at 125 feet. Write and solve an equation to find her height when she started hang gliding.
7. SHARKS The average great hammerhead shark is 11.5 feet long. The average great hammerhead shark is 13.5 feet shorter than the average whale shark. Write and solve an equation to find the length of the average whale shark.	**8. JOKES** At a party, Tex told 17 fewer knock-knock jokes than he did riddles. If he told 23 knock-knock jokes, write and solve an equation to find how many riddles Tex told at the party.

NAME _____ DATE _____ PERIOD _____

12-5 Word Problem Practice

Solving Multiplication Equations

1. BAND SOLO Kai's solo in the next school band performance is 4 times as long as Dena's solo. Kai's solo is 12 minutes long. Write and solve an equation to find the length of Dena's solo.	**2. CATS** Steve's tabby cat eats 5 times as often as his black cat. The tabby cat ate 10 times yesterday. Write and solve an equation to find how many times the black cat ate.
3. FOOTBALL In last night's football game, the home team earned 3 times as many points as the visiting team. They won the game with 21 points. Write and solve an equation to find how many points the visiting team had.	**4. MONEY** Paz has 3 times as much money in her wallet as in her pocket. There is $18 in her wallet. Write and solve an equation to find how much money is in her pocket.
5. MORNINGS It takes Jun 3 times as long as it takes Kendra to get ready in the morning. It takes Jun 45 minutes to get ready. Write and solve an equation to find how long it takes Kendra.	**6. FISH** In his home aquarium, Enli has 12 times as many guppies as he has goldfish. Enli just counted 72 guppies. Write and solve an equation to find how many goldfish he has.
7. MUSIC Ray's favorite song is 2 times as long as Meli's favorite song. Write and solve an equation to find the length of Meli's favorite song if Ray's lasts 6 minutes.	**8. TRAILS** The forest trail to Round Lake is 3 times as long as the rocky trail to Round Lake. The forest trail is 15 miles long. Write and solve an equation to find the length of the rocky trail.

Lesson 12-5

NAME _____ DATE _____ PERIOD _____

12-6 Word Problem Practice

Problem-Solving Investigation: Choose the Best Method of Computation

1. SPORTS Vanessa, Brent, and Shi Ann play volleyball, soccer, and basketball. One of the girls is Brent's next-door neighbor. No person's sport begins with the same letter of his or her first name. Brent's neighbor plays volleyball. Which sport does each person play?

2. THEATER Ticket prices for a theater are shown in the table.

Ticket Prices	
Adult	$9.25
Student	$7.50
Child Under 4	$2.00

The Stevens family needs 2 adult tickets, 3 student tickets, and 1 child's ticket. What is the total cost for the Stevens family to attend the play?

3. DESIGN A designer wants to arrange 12 glass bricks into a rectangular shape with the least perimeter possible. How many blocks will be in each row?

4. TRANSPORTATION The sixth grade class is planning a field trip. 348 students and 18 teachers will be going on the field trip. If each bus holds 48 people, how many buses will they need?

5. ANIMALS The table shows the weights of various animals. If there are 2,000 pounds in one ton, how many bobcats would it take to equal 2 tons?

Animal Weights	
Animal	**Weight (lb)**
zebra	600
anteater	100
bonobo	80
bobcat	20

6. PATTERNS Draw the next two figures in the pattern shown below.