Comparing Yard Sizes

Home Link 8-1

NAME DATE TIME

SRB 215-217, 222, 225

1. Some neighbors are deciding where to hold the annual cookout and block party. They would like to have it in the largest backyard. Use the dimensions given to find the area of each neighbor's backyard in square feet and square yards. Then answer the questions.

Family	Dimensions (ft)	Area (ft^2)	Dimensions (yd)	Area (yd^2)
Carson	66×24			
Flanigan			$14 \times 12\frac{2}{3}$	
Salazar	19×80			
De Marco			$5 \times 35\frac{1}{3}$	

2. **a.** Which family has the largest yard? ______________

   b. Which family has the smallest yard? ______________

3. Look at the number of square feet and the number of square yards in each family's yard. What number could you multiply the number of square yards by to get the number of square feet? Explain why this makes sense.

____

____

____

Practice

4. $\frac{3}{4} * 7 =$ ________

5. $17 * \frac{2}{5} =$ ________

6. $9 * \frac{11}{12} =$ ________

7. $\frac{15}{16} * 5 =$ ________

Finding Area with the Rectangle Method

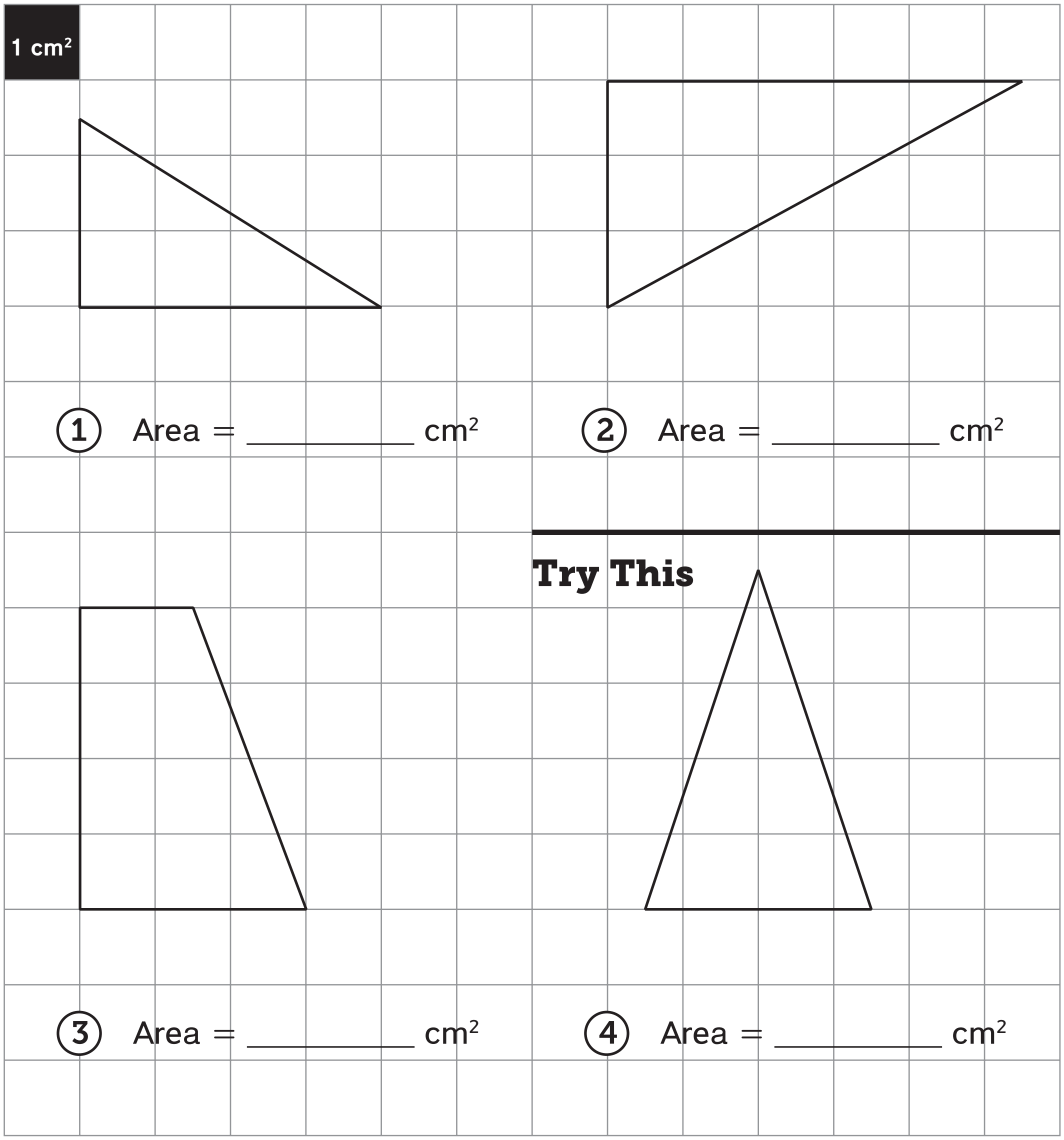
Home Link 8-2

NAME DATE TIME

SRB 228-229

Use the rectangle method to find the area of each figure.
To use the rectangle method:

- Draw one or more rectangles around the figure or parts of the figure.
- Use the area of the rectangle(s) to determine the area of the original figure.



(1) Area = __________ cm^2

(2) Area = __________ cm^2

Try This

(3) Area = __________ cm^2

(4) Area = __________ cm^2

Practice

Solve. Show your work on the back of this page.

(5) 0.14 ∗ 8 = ______________

(6) 2.75 ∗ 4.3 = ______________

Solving Remodeling Problems

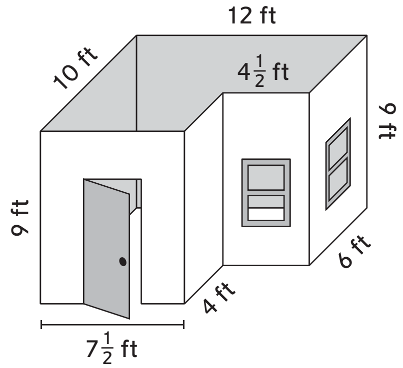
Home Link 8-3

NAME DATE TIME

Therese is remodeling her bedroom. A drawing of her bedroom is shown below. Solve Therese's remodeling problems. Show your work.

SRB 225, 227 233-234

1. How many square feet of carpet should Therese buy to cover the entire floor of her room? ________ ft^2



Therese's bedroom

2. Which air conditioner should Therese buy for her room?
   - ☐ *The Coolmax: Cools up to 800 cubic feet*
   - ☐ *The Ice Storm: Cools up to 1,500 cubic feet*
   - ☐ *The Polar Extreme: Cools up to 2,500 cubic feet*

Explain your choice.

Practice

Solve. Show your work on the back of this page.

3. $4\frac{3}{4} * \frac{1}{2} =$ ________

4. $\frac{2}{3} * 10\frac{1}{5} =$ ________

Milk Carton Volume

Home Link 8-4

NAME DATE TIME

SRB 233

Myles poured milk from a carton into glasses for his family for breakfast on Monday and Tuesday. Each day he poured 200 cubic centimeters of milk for each of his 2 sisters and himself. He also poured 300 cubic centimeters of milk for his mom and the same amount for his dad.

The milk carton is a rectangular prism. The length is 15 centimeters and the width is 10 centimeters.

1. What is the minimum height of the milk carton if all of the milk for both days came from one carton? Show your work and explain your answer.

Practice

Solve. Show your work on the back of this page.

2. 36.4 ÷ 1.3 = ________

3. 33.66 ÷ 0.55 = ________

Spending $500

Home Link 8-5

NAME DATE TIME

You are planning a camping trip for yourself and two friends. After saving money for a few months, you and your friends have $500 to spend on the trip.

SRB 128

Item	Unit Cost	Item	Unit Cost
Waterproof sleeping bag	$98.86	Rain tarp	$14.99
Standard sleeping bag	$30.76	Flashlight	$7.24
Campsite (1 night)	$22.00	Meals (1 day, 3 people)	$22.04
6-person tent (no rain protection)	$154.99	Single kayak (2-hour rental)	$29.99
8-person tent (with rain protection)	$229.99	Mountain bike rental (1 day)	$40.59

1. Use the prices above to plan how you will spend $500. Round each unit cost to find approximate total costs. Write a number sentence in the last column to show how you estimated. Spend as close to $500 as you can.

Item	Quantity	Unit Cost	Approximate Total Cost
			Total cost: ____________

2. On the back of this page, explain one decision you made as you planned.

Practice

3. $6\frac{2}{3} * 4\frac{7}{8} =$ ________

4. $10\frac{5}{6} * 5\frac{3}{4} =$ ________

Calculating Earnings

Home Link 8-6

NAME DATE TIME

Solve. Show your work. Write a number model to show how you solved.

SRB 108, 204 215

1. Jeremiah mows his neighbor's lawn to earn money. His neighbor pays him $50 per month. It takes Jeremiah 1 hour and 15 minutes to mow the lawn once. He mows the lawn 4 times per month.

   a. How many hours does Jeremiah spend mowing the lawn each month?

   Number model: ______________________ Answer: _______________

   b. How much money does Jeremiah earn per hour?

   Number model: ______________________ Answer: _______________

   c. How long would it take Jeremiah to earn $1,000? Give your answer in both months and hours.

   Number model(s): ______________________

   Jeremiah would have to work for ________ months, or ________ hours.

Practice

Solve using common denominators. Show your work.

2. $8 \div \frac{1}{5} = ?$

   $8 \div \frac{1}{5} =$ ________

3. $\frac{1}{4} \div 12 = ?$

   $\frac{1}{4} \div 12 =$ ________

Paying Off Debts

NAME DATE TIME

Solve Problems 1–3. Write a number model to show how you solved.

SRB 113, 140 215

① Kendall lent Kel $40 to buy a game. Kel is earning money by washing cars. He charges $7 per car. How many cars will Kel need to wash in order to pay Kendall back?

Number model: ______________________________

Answer: _______________

② Josie borrowed $65 from her mom for a class trip to Washington, D.C. When she returns from the trip, Josie will start working for her neighbors. She will make $8.50 each time she walks their dogs.

a. How many times will Josie have to walk the dogs in order to repay her debt?

Number model: ______________________________

Answer: _______________

b. If Josie walks 3 miles each time she takes the dogs out, how many miles will she have walked by the time she repays her debt?

Number model: ______________________________

Answer: _______________

③ Langdon earns $23 an hour at a law office. He works about 55 hours per week.

a. If there are about 4 weeks in one month, how much money does Langdon earn each month?

Number model: ______________________________

Answer: About _______________

b. Langdon took out a $5,000 loan to help pay for college. Would one month's earnings pay off his loan? _______________

Practice

④ $4.53 * 10^3 =$ _______________

⑤ $62.8 \div 10^4 =$ _______________

⑥ $29.1 * 10^6 =$ _______________

⑦ $7{,}354.2 \div 10^2 =$ _______________

Hiking a New Zealand Trail

Home Link 8-8

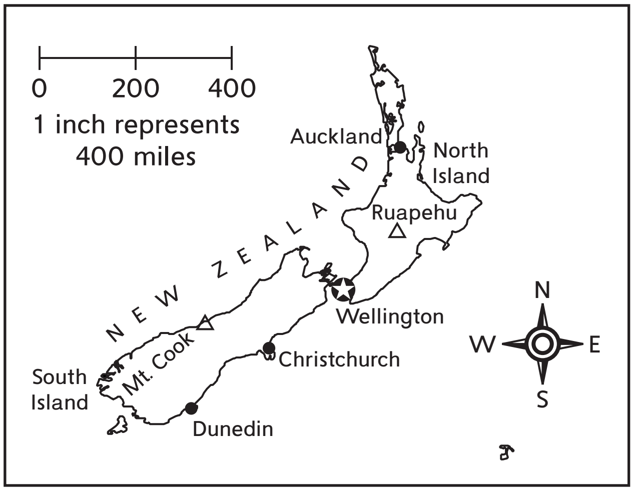
NAME DATE TIME

Use the information from journal page 300 to fill in the blank.

Length of one footstep: About ____________ feet

SRB 215-217 328, 332

A group of hikers in New Zealand are walking to a campsite. They will hike from Wellington to Ruapehu, a distance of about 200 miles. Then they will follow a trail for another 12 miles to their campsite. (The campsite is not shown on the map.)



Use your class information about step length to solve the problems.

Reminder: 1 mile = 5,280 feet

1. About how many total miles is it from Wellington to the campsite?

   About ____________ miles

2. About how many steps would a hiker take to walk from Wellington to the campsite? Show your work below.

   About ____________ steps

Practice

3. $2\frac{2}{3} * 4\frac{1}{5} = ?$

   $2\frac{2}{3} * 4\frac{1}{5} =$ ____________

4. $9\frac{1}{2} * 3\frac{5}{6} = ?$

   $9\frac{1}{2} * 3\frac{5}{6} =$ ____________

How Many Blueberries?

Home Link 8-9

NAME DATE TIME

SRB 103, 215–216, 328

① Fill in the blanks.

1 pint = ____________ cups   1 quart = ____________ pints

② About 75 blueberries fill a 1-cup container.

Use this information and your answers to Problem 1 to help you complete the table.

Hint: If 75 blueberries are in 1 cup, how can you find how many are in 2 cups?

Measurement	Number of Blueberries
1 cup	
1 pint	
1 quart	

③ One blueberry plant can produce 4 quarts of blueberries in 1 year. How many blueberries does one plant produce in 1 year? Explain how you know.

____

____

____

④ A farmer can fit about 1,100 blueberry plants in a 1-acre field. About how many blueberries would a well-tended blueberry field produce in 1 year?

About ____________________ blueberries

⑤ With proper maintenance, a blueberry plant can live for 20 years.

a. Suppose you have one blueberry plant in your backyard. About how many blueberries would it produce in its lifetime?

About ____________________ blueberries

b. Suppose a farmer had a 1-acre blueberry field. About how many blueberries would the field produce in the plants' lifetime?

About ____________________ blueberries

Practice

Estimate. Then multiply. Show your work on the back of this page.

⑥ 23.3 ∗ 1.28 = ____________

Estimate: ________________

⑦ 326.2 ∗ 0.52 = ____________

Estimate: ________________

Cardiac Output

Home Link 8-10

NAME DATE TIME

Today you learned that *cardiac output* is the amount of blood a heart pumps in 1 minute. You can find your cardiac output using your heart rate and the amount of blood your heart pumps with each heartbeat.

SRB 134, 217, 328

Cardiac output = heart rate * amount of blood pumped with each heartbeat

1. The typical resting heart rate for a healthy adult is about 72 beats per minute. A healthy adult heart pumps about 2.4 fluid ounces of blood per heartbeat.

   a. What is the cardiac output of a healthy adult?

   ________ beats per minute * ________ fluid ounces of blood per heartbeat =

   ________________ fluid ounces of blood per minute

   b. How many fluid ounces of blood will a healthy adult's heart pump in one hour?

   About ________________ fluid ounces

   c. How many cups of blood is that? About ________________ cups

2. A newborn baby's heart beats about 135 times per minute, but it pumps only about 0.25 fluid ounce of blood per heartbeat.

   a. What is the cardiac output of a newborn baby?

   ________ beats per minute * ________ fluid ounces of blood per heartbeat =

   ________ fluid ounces of blood per minute

   b. How many fluid ounces of blood will a newborn baby's heart pump in one hour?

   About ________________ fluid ounces

   c. How many cups of blood is that? About ________________ cups

---

Practice

Estimate. Then divide. Show your work.

3. 361.2 ÷ 14 = ?

   Estimate: ____________________

   361.2 ÷ 14 = ________

4. 7.28 ÷ 0.8 = ?

   Estimate: ____________________

   7.28 ÷ 0.8 = ________

Latitude and Temperature

Home Link 8-11

NAME DATE TIME

SRB 55-56 275-276

Latitude is a measure of how far north or south a location is from the equator. This table shows the approximate latitude and average high temperature in April for five cities.

City	Latitude (°N)	Average High Temperature (°F)
Singapore, Singapore	1	89
Acapulco, Mexico	17	87
Cairo, Egypt	30	83
Amsterdam, Netherlands	52	53
Helsinki, Finland	60	43

1. Write the data as ordered pairs. The latitudes are the *x*-coordinates. The average high temperatures for April are the *y*-coordinates. Graph the points and use line segments to connect them.

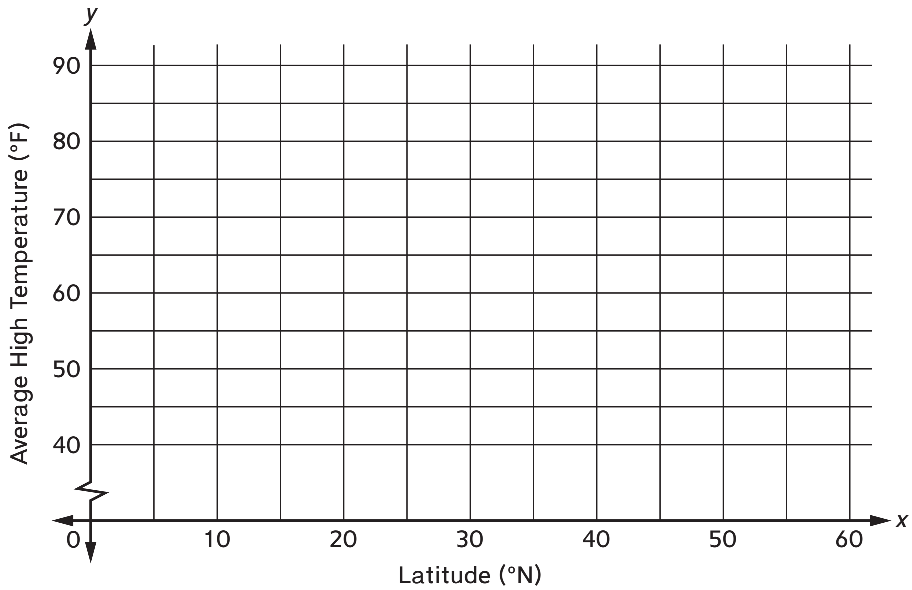
____

____

____

____

____



2. The city of Nassau, Bahamas, is located at latitude 25°N. Based on your graph, what would you predict for the average high temperature in Nassau in April?

____

3. Does latitude seem to have an effect on average high temperature? Explain your answer.

____

____

____

The Boiling Point

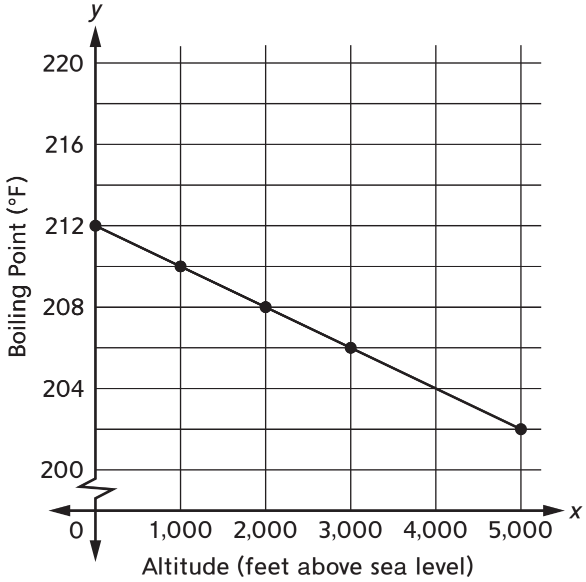
Home Link 8-12

NAME DATE TIME

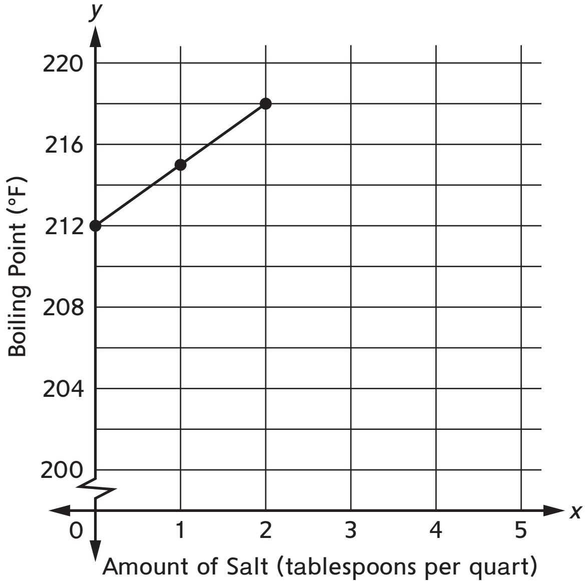
SRB 55-56 275

The *boiling point* of water is the temperature at which it boils. The graphs show how altitude and salt affect the boiling point of water. (*Altitude* is the measure of how high a location is.) Study the graphs. Then use them to answer the questions.

Boiling Points of Water at Different Altitudes



Boiling Points of Water with Different Amounts of Salt



1. What would you expect the boiling point of water to be at an altitude of 2,500 feet above sea level?

   About ________

2. What would you expect the boiling point of a quart of water to be if it contained $\frac{1}{2}$ tablespoon of salt?

   About ________

3. How does altitude affect the boiling point of water?

   ____

   ____

4. How does salt affect the boiling point of water?

   ____

   ____

Practice

Divide using the common denominator method. Show your work on the back of this page.

5. $\frac{1}{4} \div 6 =$ ________

6. $5 \div \frac{1}{10} =$ ________

End-of-Year Family Letter

Home Link 8-13

NAME DATE TIME

Congratulations!

By completing *Fifth Grade Everyday Mathematics*, your child has accomplished a great deal. Thank you for your support.

This Family Letter is a resource you can use during the break before sixth grade. It includes a list of Do-Anytime Activities, directions for games that can be played at home, a list of mathematics-related books to read, and a preview of what your child will be learning in *Sixth Grade Everyday Mathematics*. Enjoy your vacation!

Do-Anytime Activities

Mathematics means more when it is rooted in real-life situations. The following activities will help your child connect many of the concepts he or she learned in fifth grade to everyday experiences. We suggest that you do these activities together to help your child build on the skills learned this year and to prepare him or her for *Sixth Grade Everyday Mathematics*.

1. Have your child solve addition, subtraction, multiplication, or division problems that are based on real-life situations. Vary the problems so that some are suitable for mental computation and some require paper-and-pencil calculation. Include problems that involve whole numbers, decimals, fractions, and mixed numbers.
2. Have your child look for patterns in the real world and describe them. For example, your child might notice that when there is more water in a pot, the water will take longer to boil or that when you buy a package that has twice as many batteries as another, the price will not necessarily double. Ask your child to predict whether the patterns he or she has noticed will always hold true and to explain his or her thinking.
3. Ask your child to help you figure out what measurements need to be made to solve a problem or make a decision. For example, if you are buying a new couch, do you need to think about the length, area, or volume of the couch? What decision would each measurement help you make?
4. Have your child identify interesting or surprising numbers in the news, advertisements, or other print or online media. Encourage him or her to consider what numbers represent in different units. For example, if an insurance company advertises a premium of just \$1.50 a day, how much money is that per week? Per month? Per year?
5. Have your child collect data about activities that he or she does regularly. For example, your child could keep track of the number of baskets made in a game of basketball or record the number of pages read in a given amount of time. Talk about the data with your child to see if any patterns or trends emerge.
6. Have your child help with cooking, especially when you want to double or halve a recipe. Ask your child to help you measure the correct amount of ingredients and explain his or her thinking with questions like: *How did you figure out how to double* $\frac{3}{4}$*? How did you find* $\frac{1}{2}$ *of* $2\frac{1}{4}$*?*

Building Skills through Games

This section lists directions for games that can be played at home. The number cards used in some games can be made by writing the numbers 0–20 on index cards.

Decimal Top-It: Addition

Players: 2

Materials: number cards 0–9 (4 of each); 4 counters or coins; paper

1. Shuffle the number cards and place them number-side down on the table.
2. Each player turns over six cards and, using counters or coins as decimal points, forms two numbers with digits in the ones, tenths, and hundredths places. Players may put their cards in any order.
3. Each player finds the sum of his or her numbers. Then players compare the sums. The player with the greater sum takes all the cards.
4. The game ends when there are not enough cards left for each player to have another turn. The player with more cards wins.

Example Round: Tony turns over these cards: 4, 6, 3, 5, 9, 7. He makes the decimals 9.64 and 7.35. Melissa turns over these cards: 7, 4, 1, 0, 7, 8. She makes the decimals 8.41 and 7.70.

Tony's sum is $9.64 + 7.35 = 16.99$. Melissa's sum is $8.41 + 7.70 = 16.11$. Tony takes all the cards because 16.99 is greater than 16.11.

Decimal Top-It: Subtraction

This game is just like *Decimal Top-It: Addition*, except players find the difference between their numbers in Step 3. The player with the greater difference takes all the cards.

Name That Number

Players: 2 or 3

Materials: number cards 0–10 (4 of each); number cards 11–20 (1 of each); paper

1. Shuffle the number cards and deal five cards to each player. Place the remaining cards number-side down on the table between the players. Turn over the top card and place it beside the deck. This is the target number for the round.
2. Players try to match the target number by adding, subtracting, multiplying, or dividing the numbers on as many of their cards as possible. A card may be used only once.
3. Players write their solutions on a sheet of paper, using grouping symbols as needed.
4. When players have written their best solutions, each player sets aside the cards he or she used to match the target number and replaces the cards by drawing new cards from the top of the deck.
5. Place the old target number on the bottom of the deck and turn over a new target number to start a new round.

(continued on the next page)

6. Play continues until there are not enough cards left to replace all of the players' cards. The player who has set aside the most cards wins the game.

Example Round: Target Number: 16 Laurie's cards: 7, 5, 8, 2, 10

Some possible solutions:

$10 + 8 - 2 = 16$ (3 cards used)

$10 + (7 * 2) - 8 = 16$ (4 cards used)

$\left[\frac{10}{(5 * 2)}\right] + 8 + 7 = 16$ (all 5 cards used)

$\left[\frac{(8 + 7)}{5}\right] * 2 + 10 = 16$ (all 5 cards used)

Laurie chooses to use the solution $\left[\frac{10}{(5 * 2)}\right] + 8 + 7 = 16$. She sets all five of her cards aside and picks five more cards for the next round.

Top-It: Multiplication* or *Division

Players: 2 to 4

Materials: number cards 0–9 (4 of each); paper

1. Shuffle the number cards and place them number-side down on the table.
2. Each player turns over four cards.
   - *Multiplication version:* Choose three cards to form a 3-digit number, then multiply by the remaining number. Players may put their cards in any order.
   - *Division version:* Choose three cards to form a 3-digit number, then divide the 3-digit number by the remaining number. Ignore the remainder. Players may put their cards in any order.
3. Compare products (multiplication version) or quotients (division version). The player with the greatest product or quotient takes all the cards.
4. The game ends when there are not enough cards left for each player to have another turn. The player with the most cards wins.

Variation: Use the four cards to make two 2-digit numbers to multiply in Step 2.

Example Round: Ursula turns over these cards: 4, 6, 2, 5. She makes the problem 462 * 5. Aiden turns over these cards: 3, 7, 8, 1. He makes the problem 731 * 8.

Ursula's product is 2,310. Aiden's product is 5,848. Aiden takes all the cards because 5,848 is greater than 2,310.

Vacation Reading with a Mathematical Twist

Books can contribute to children's learning by presenting mathematics in a combination of real-world and imaginary contexts. The titles below are organized by mathematical topics. Consider reading these mathematical books with your child.

Number and Operations *The Rajah's Rice: A Mathematical Folktale from India* by David Barry *Counting on Frank* by Rod Clement *Sideways Arithmetic from Wayside School* by Louis Sachar *The Great Number Rumble: A Story of Math in Surprising Places* by Cora Lee and Gillian O'Reilly **Fractions** *The Wishing Club: A Story About Fractions* by Donna Jo Napoli *If You Hopped Like a Frog* by David M. Schwartz	**Geometry** *The Boy Who Reversed Himself* by William Sleator *Finding the Treasure: Coordinate Grids* by Renata Brunner-Jass and David T. Hughes *The Great Polygon Caper* by Karen Ferrell **Measurement** *Mr. Archimedes' Bath* by Pamela Allen *Measuring Penny* by Loreen Leedy *Perimeter, Area, and Volume: A Monster Book of Dimensions* by David A. Adler

Looking Ahead: *Sixth Grade Everyday Mathematics*

Next year, your child will...

- continue to explore methods for dividing whole numbers and adding, subtracting, multiplying, and dividing decimals.
- maintain and extend skills for computing with fractions.
- explore rates, ratios, and proportions.
- extend his or her understanding of the number system, number lines, and coordinate grids to include negative numbers.
- extend work with exponents to bases other than 10.
- use variables, expressions, and equations to model and solve real-world and mathematical problems.
- find areas of triangles and parallelograms, surface areas of 3-dimensional objects, and volumes of prisms with fractional edge lengths.
- continue collecting and displaying data on line plots, extend exploration of data displays to include histograms and box plots, and describe data sets using measures of center and spread.