

Solve each problem.

- **10.** Tommy buys 6 notebooks. They cost \$3 each. How much does he spend?
- **11.** Olivia has 42 muffins. She puts the same number of muffins into each of 6 baskets. How many muffins does Olivia put in each basket?

Solve each problem. Label your answers with the correct units.

- **12.** Ms. Emerson has a rectangular shelf that is 5 feet long and 3 feet wide. What is the area of the shelf?
- 13. Trevor has a rectangular treasure box with an area of 72 square centimeters. If the length of one side is 9 centimeters, what is the length of the adjacent side?
- **14. Stretch Your Thinking** Grace has a piece of string that is 8 inches long. She needs to cut the string into four equal pieces, but she does not have a ruler. Explain a way Grace can cut the string into four equal pieces.



Choose the best unit to measure how much each item can hold. Write *cup*, *pint*, *quart*, or *gallon*.

- 1. a bathtub _____
- 2. a container of orange juice _____
- **3**. a juice box _____
- 4. a small milk carton _____

Use drawings to represent the problems.

- 5. Molly bought a container of lemonade that had 6 cups. She drank 2 cups. How many cups of lemonade does she have left?
- 6. Randy poured 8 quarts of water in a bucket. Then he added 4 more quarts. How many quarts of water are in the bucket?

- 7. Mrs. Sanders buys 2 gallons of milk each week. How many gallons of milk will she buy in 10 weeks?
- **9.** Brian's aquarium holds 16 gallons of water. He uses 2-gallon containers of water to fill the aquarium. How many containers does he use?

- 8. Brianna bought 64 fluid ounces of her favorite drink. How many 8 fluid-ounce glasses can she fill with the drink?
- **10.** The Corner Market sold 24 pints of milk on Monday and 18 pints on Tuesday. How many pints of milk did the market sell on those two days?

Make a math drawing for the problem and label it with a multiplication equation. Then write the answer.

- 1. Coach Stevens puts 6 cones in each row for physical education class. He makes 4 rows. How many cones does Coach Stevens use?
- 2. Emily puts stickers in 8 bags, with 5 stickers per bag. How many stickers does Emily use?

Find the unknown number for each Fast Array drawing.

Circle the better estimate.

Homework

3-3

- **1.** a container of milk 2 L 20 mL
- **3.** an eyedropper 1 L or 1 mL

Choose the unit you would use to measure the liquid volume of each. Write *mL* or *L*.

5. a container of glue _____

Use the drawing to represent and solve the problem.

- 7. Dinah had a bottle of water that contained 800 milliliters of water. She used 500 milliliters. How much water is left in the bottle?
- 8. Galen has a fish tank that holds
 40 liters of water. He poured
 15 liters of water into the tank.
 How many more liters does he
 need to add to fill the tank?

Solve.

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- 9. Ben has 4 hummingbird feeders. Each feeder holds 80 milliliters of liquid hummingbird food. How many milliliters of liquid hummingbird food does Ben need?
- 10. Drew needs 27 liters of punch for a party. It comes in 3 liter containers. How many containers should Drew buy?

2 L 20 mL **2**. a or 1 mL **4**. a

1 liter (L) = 1,000 milliliters (mL)

- 2. a cup of punch 25 L 250 mL
- 4. a jar of pickles 50 L 500 mL

6. an aquarium _____

3-3

Remembering

Make a math drawing for the problem and label it with a multiplication equation. Then write the answer to the problem.

area

division

array

multiplication

 Kelly's garden has 6 rows of tulips. There are 5 tulips in each row. How many tulips are in her garden?

Solve. Then circle what type it is and what operation you used.

2. The area of the rectangular table is 18 square feet. The width of the table is 3 feet. What is its length?

array

multiplication

3. The band lines up in 8 rows, with 6 band members in each row. How many band members are there in all?

equal groups

Use the	drawing	to	represent	the	problem.

equal groups

- 4. Elizabeth buys a container of orange juice that has 8 cups. She pours 6 cups into a pitcher. How many cups are left in the container?
- **5. Stretch Your Thinking** Write a word problem that involves subtracting 4 liters. Then solve. Draw a picture to represent your answer.

area

division

Choose the unit you would use to measure the weight of each object. Write *ounce* or *pound*.

Choose the unit you would use to measure the mass of each object. Write *gram* or *kilogram*.

Circle the better estimate.

7. a pillow	8 oz	8 lb	8. a stapler	250 g	250 kg
9. a car	1,000 g	1,000 kg	10. a large book	3 lb	30 lb

Solve. Use a drawing if you need to.

- 11. Steve bought 24 ounces of his favorite cereal. He put equal amounts of the cereal in 4 containers. How many ounces did he put in each container?
- 13. There are 8 books in a box.Each book has a mass of2 kilograms. What is thetotal mass of the books?
- 12. Beth bought a bag filled with 340 grams of pasta. She used 250 grams. How many grams are left in the bag?
- 14. Roy bought a 25-pound bag and a 10-pound bag of pet food. How many pounds of pet food did he buy?

Miles puts in another 8 liters. How much water is in the bucket now?

11. Stretch Your Thinking Explain how you know whether to choose grams or kilograms when measuring mass. Name an object you would measure using each unit.

10. Austin puts 5 liters of water in an empty bucket.

- 9. Meagan has a container that has 700 milliliters of milk. She uses 300 milliliters for a recipe. How much milk is left in the container?
- **7.** $\frac{49}{7} =$ **6.** 6 • 4 = Use drawings to represent the problems.

Multiply or divide to find the unknown numbers.

4. 2 * = 14 **3.** 50 ÷ 10 =

Write an equation and solve the problem.

1. The shoe store has a stack of 9 shoeboxes.

Two shoes are in each box. How many shoes

2. Mrs. Rak's class has 35 students. Seven students

sit at each table. How many tables of students

5. $6)\overline{54} =$ \times 4 = 20 8.

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100 mL

are in the stack?

are there?

3-4

Solve. Use drawings if you need to.

- Carlie had 800 milliliters of water in a container. She poured all but 300 milliliters into a vase. How many milliliters of water did Carlie pour into the vase?
- **2.** Benji bought 2 potatoes that together have a mass of 496 grams. If one potato has a mass of 254 grams, what is the mass of the other potato?
- **3.** An average sized duck egg has a mass of 80 grams. What would be the mass of three duck eggs?
- 4. Michelle has 4 buckets she uses to water plants.She filled each bucket with 6 liters of water.What is the total liquid volume of all the buckets?
- **5.** A stack of books has a mass of 21 kilograms. If each book in the stack has a mass of 3 kilograms, how many books are in the stack?
- 6. Martha bought a liter of lemonade. She gave each of her 3 friends 300 milliliters. Did Martha use the whole liter of lemonade? Explain.

Show Your Work

Date

Name

Remembering

Multiply or divide to find the unknown numbers.

Solve.

- 7. The valet parked 5 rows of cars in the parking lot. He put 5 cars in each row. How many cars did he park?
- 8. Charlie is making a mosaic picture using 1-centimeter square tiles. He places them in a square, 8 tiles wide by 8 tiles long. What is the area of the mosaic picture?

Choose the unit you would use to measure the weight of each object. Write *ounce* or *pound*.

- 9. 10. 11.
- **12. Stretch Your Thinking** Jake has 12 liters of water. Name four different ways he can divide the water into buckets so each bucket has the same number of liters.

3-5

Homework

Write the time on the digital clock. Then write how to say the time.

Draw the hands on the anolog clock. Write the time on the digital clock.

5. twenty-eight minutes after four

6. six forty-five

Write the time on the digital clock. Then write how to say the time.

C Houghton Mifflin Harcourt Publishing Company 8. 9.

10.

Name

Write an equation and solve the problem.

- The pet store has 7 aquariums. There are 9 fish in each aquarium. How many fish in all are in the aquariums?
- 2. Declan has 81 dollar bills. He puts them in piles of 9. How many piles does he make?

Find the unknown number for each Fast Array drawing.

Solve.

- 6. LaDonna buys 2 grapefruits that together have a mass of 479 grams. If one grapefruit has a mass of 245 grams, what is the mass of the other grapefruit?
- 7. Harper fills 3 pots each with 4 liters of water. How many liters of water does he pour into the pots?
- 8. Stretch Your Thinking I am an hour that happens two times a day. My hands point in opposite directions. Both my hands point to a number on the clock. What hour am I?

Write the times as minutes *after* an hour and minutes *before* an hour.

Date

Multiply or divide to find the unknown numbers.

Write an equation to solve the problem.

Name

3-7

Remembering

- 7. Antonio is planting bean seeds. He puts6 seeds in each row. There are 5 rows. How many bean seeds does he plant?
- 8. The baker made 56 fresh baked muffins. There are 8 muffins in each tin. How many tins did he use?

Write the time on the digital clock. Then write how to say the time.

13. Stretch Your Thinking List five different times in which the minutes before are the same as the minutes after the hour.

Complete.

1. Complete the table.

Start Time	Elapsed Time	End Time
2:00 р.м.		10:00 р.м.
2:27 а.м.		4:45 A.M.
3:30 а.м.	1 hour and 22 minutes	
2:10 р.м.	3 hours and 16 minutes	
	2 hours and ten minutes	11:00 а.м.
	4 hours and 39 minutes	7:53 р.м.

Solve. Use your clock if you need to.

- 2. Liza left the library at 11:30 A.M. on Saturday.She had been there for 1 hour and 25 minutes.What time did she get to the library?
- **3.** Andres spent from 4:15 P.M. to 5:05 P.M. doing chores. How much time did Andres spend doing his chores?
- 4. Arjun arrived at baseball practice at 5:15 р.м. He practiced for 1 hour and 30 minutes. What time did baseball practice end?
- 5. Today Sarah's piano lessons started at 4:15 р.м. She was finished with her lessons at 5:10 р.м. How long was Sarah at piano lessons?

11.

Name

Remembering

3-8

9.

Multiply or divide to find the unknown numbers.

Write an equation and solve the problem.

- 7. There are 36 students at the show. They sit in4 equal rows. How many seats are in each row?
- 8. The music teacher set up 67 chairs for the concert. The principal set up 35 chairs for the concert. How many chairs in all did they set up?

10.

Write the times as minutes *after* an hour and minutes *before* an hour.

12. Stretch Your Thinking Write a word problem where something starts at 8:25 A.M. and ends at 1:43 P.M.

Solve using a number line.

1. Terry began watching a movie at 5:45 р.м. The movie lasted 2 hours 20 minutes. Then Terry spent 25 minutes eating a snack. What time did Terry finish eating the snack?

2. Evan left his friend's house at 5:00 р.м. He had been there 2 hours 15 minutes. At what time did Evan arrive at his friend's house?

3. Haley began reading her book at 9:55 A.M. She read for 1 hour 35 minutes. Then she spent 45 minutes doing homework. What time did Haley finish her homework?

3-9

Make a rectangle drawing to represent each exercise. Then find the product.

1. $6 \times 9 =$ **2.** 7 * 5 = **3.** $3 \cdot 6 =$

Write the first step question and answer. Then solve the problem.

- 4. The baker makes 54 biscuits in the morning. Then he makes 26 more in the afternoon. He puts 10 biscuits in each bag. How many bags does he fill?
- 5. Compete the table.

Start Time	Elapsed Time	End Time
9:32 а.м.	1 hour 23 minutes	
1:19 р.м.		5:37 р.м.
	2 hours 45 minutes	7:31 р.м.

6. Stretch Your Thinking Write a two step time word problem using the number line in which the start time is 4:50. Use the number line below to show how to solve.

Solve. Use a clock or sketch a number line diagram if you need to.

- Rhea arrived at the mall at 3:45 P.M. She spent 45 minutes having lunch and then she shopped for 55 minutes before leaving the mall. How much time did Rhea spend at the mall?
- 2. Mrs. Cox is baking a ham for dinner. It takes 1 hour 30 minutes to bake. The family eats at 6:15 P.M. What time should Mrs. Cox put the ham in the oven?
- **3.** Dina started chores at 8:15 A.M. and finished at 9:05 A.M. It took her 30 minutes to clean her room and she spent the rest of the time bathing her dog. How long did Dina spend bathing her dog?
- 4. Jerry finished skating at 7:00 р.м. He skated for 1 hour 45 minutes. What time did he start skating?

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5. Jason started his project at 2:30 P.M. and finished 2 hours and 15 minutes later. He spent 25 minutes doing research, 30 minutes writing a report, and the rest of the time building a model. What time did he finish his project? How much time did he spend building the model?

Solve each problem.

Show Your Work

- The farmer makes stacks of 4 bales of hay. He makes
 6 stacks. How many bales of hay does he stack?
- 2. Lilly has 85 shells in her collection. She gives 13 shells to her best friend. She puts the rest of her shells in groups of 9. How many groups does she make?

Solve.

3. William and Hannah went to the bowling alley at 5:30 P.M. They bowled for 1 hour 20 minutes. Then they played a video game for 30 minutes. After the video game, they leave to go home. What time did they leave?

4. Stretch Your Thinking Tony is cooking dinner. He starts cooking at different times, so all the foods will be ready at the same time. The chicken takes 25 minutes to cook, the rice takes 40 minutes to cook, and the green beans take 15 minutes to cook. All the foods are finished at 5:33 P.M. At what time did he start cooking each food?

Use the horizontal bar graph to answer each question.

- 1. How many fiction books are in the library? _____
- 2. How many more science books are there than biographies? _____
- **3.** Write two of your own questions that can be answered using the graph.

Use the vertical bar graph to answer each question.

- **4.** How many cats and dogs are at the kennel?
- 5. The kennel has the fewest of which type of pet?
- **6.** Write two of your own questions that can be answered using the graph.

Pets at the Kennel

3-11

Multiply or divide.

2. 4 × _____ = 20 1. 7 * 3 = _____ **3.** 81 ÷ 9 = _____ **4.** $\frac{8}{2} =$ _____ **5.** 5 • 9 = _____ 6. 2 × _____ = 12

Write an equation and solve the problem.

7. The toy store receives a shipment of games. There are 8 boxes. Each box has 20 games. How many games are in the shipment?

Solve. Use a clock or sketch a number line diagram to help you.

- 8. Emily arrives at school at 8:35 A.M. Together reading and math last for 1 hour 35 minutes. Then Emily goes to band practice for 45 minutes. What time does band practice end?
- 9. Stretch Your Thinking Use the graph at the right. If the pet store had 10 more birds, the number of dogs would be double the number of birds. What numbers should be on the scale? Explain how you solved.

Date

Use the vertical bar graph to answer the questions.

Sunnytown Reading Festival

- About how many books did students at Maxwell School read?
- 2. How many more books did students at Grover School read than students at Hopper School?
- 3. How many fewer books did students at Hopper School read than students at Warner School?
- 4. How many more books did the students at Maxwell need to read to have the same number of books as Warner?
- **5.** Use the information in this table to make a vertical bar graph.

Pinball Scores			
Player	Points		
Trina	500		
Mindy	350		
Warren	200		

3-12 Name		Date
Remembering		
Multiply or divide to fi	ind the unknown numbers	
1. 16 = × 4	2. = 4 × 8	3. 42 ÷ 7 =
4. 8 = 56 ÷	5. 2 × = 10	6. 9 × 3 =
		_

Use the horizontal bar graph to answer each question.

- 7. How many markers are there?
- 8. How many more crayons are there than pencils?
 9. How many fewer pencils are there than markers?
 Art Supplies
 Pencils
 Markers
 Crayons
 0 3 6 9 12 15 18 21 24 27 30
 Number of Supplies
- **10.** Write your own question that can be answered using the graph.
- **11. Stretch Your Thinking** Draw a Favorite Color horizontal bar graph in which red has 300 more votes than yellow, and blue has double the votes of red. Use a scale with an interval of 100.

Measure the lengths of 12 shoes at your home to the nearest $\frac{1}{2}$ inch. Record the data in the Tally Chart and then make a Frequency Table.

Tally Chart		Frequen	cy Table
Tally	Le	ngth	Tally
	Tally	Tally Le Tally I	Chart Frequen Tally Length

Use the data above to make a line plot.

- **3.** What is the length of the shortest shoe?
- 4. What is the length of the longest shoe?
- 5. Which length appears the most often?
- **6.** Write a question that can be answered using the data displayed on the line plot.

Use the vertical bar graph to answer the questions.

- How many more cans did the 3rd grade collect than the 2nd grade? _____
- 8. How many fewer cans did the 2nd grade collect than the 1st grade? _____
- 9. About how many more cans would the 4th grade have to collect to have the same number as the grade with the most cans?

10. Stretch Your Thinking You need to find how many people drew a picture in less than 12 minutes. Which data display is easier to use to find the answer? Explain.

Minutes to Draw Picture				
Steve	10	Rob	14	
Lauren	12	Nikki	13	
Claudia	14	Jose	15	
Erin	15	Tom	15	
Joe	13	Helen	11	
Greg	15	Tim	14	

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Name

3-14

Homework

The coach of the girls' soccer team measured the heights of the players to the nearest $\frac{1}{2}$ inch. She recorded the heights in the line plot below.

Use the line plot to solve the problems.

1. How many players are $47\frac{1}{2}$ inches tall?

- 2. What is the difference in height between the tallest player on the team and the shortest player?
- 3. What is the most frequent height?
- **5.** Are there more players $47\frac{1}{2}$ inches **6.** How many more players are tall and greater or less than $47\frac{1}{2}$ inches tall?
- 4. How many players are on the soccer team?
 - $49\frac{1}{2}$ inches than $46\frac{1}{2}$ inches tall?

Write an equation and solve the problem.

- Jon used 1-foot square tiles to cover his bathroom floor. The bathroom is 8 feet long and 10 feet wide. How many tiles did he use to cover his floor?
- 2. The principal buys 42 red cups and 21 blue cups. She puts 7 cups on each table. How many tables will have cups?

Use the data below to make a line plot.

3.	Lengths of Pencils in Inches			
	Lizzie	$7\frac{1}{2}$	Carl	6
	Mario	5	Aja	6
	Jenn	$6\frac{1}{2}$	Joe	$7\frac{1}{2}$
	Travis	7	Jung	7
	Karen	6	Terrell	7

4. Stretch Your Thinking You need to find the height of most third graders at your school. What type of data display would you use? Explain.

Measure the length of a smile of 10 different people to the nearest $\frac{1}{2}$ inch.

1. Record the lengths in the box below.

2. Organize the measurement data in a frequency table and a line plot.

Frequen	Frequency Table		
Length	Tally		

3. Describe what your line plot shows.

Write an equation and solve the problem.

 There are 72 skateboards in the shop. If Todd sells 8 each day, how many days will it take him to sell all of the skateboards?

Complete.

2. $36 = ___ \times 4$ **3.** $__ \times 9 = 81$ **4.** $__ = 54 \div 6$

Use the line plot to solve the problems.

- 5. How many people exercised for 6 hours?
- 6. Did more people exercise less than 5 hours or more than 6 hours?
- **7. Stretch Your Thinking** What can you conclude about the data in the line plot?