Simplify each expression.

4-1

Homework



| Rea        | Read and write each number in expanded form.   |      |  |  |  |  |  |
|------------|--|------|--|--|--|--|--|
| 1          | ninety-six thousand, one hundred thirty-seven  |      |  |  |  |  |  |
| 2          | four hundred thirteen thousand, five hundred twenty-o  | one  |  |  |  |  |  |
| 3          | seven hundred eight thousand, fifty-three  |      |  |  |  |  |  |
| 4          | six hundred thirty thousand, four hundred seventeen  |      |  |  |  |  |  |
| Fin<br>giv | d the area (in square units) of a rectangle with the<br>en dimensions.   |      |  |  |  |  |  |
| 5          | 4 × 6 6 4 × 60   |      |  |  |  |  |  |
| 7          | 5 × 9 8 50 × 9   |      |  |  |  |  |  |
| Div        | vide with remainders.  |      |  |  |  |  |  |
| 9          | 9) <u>28</u> (1) 3) <u>17</u> (1) 6) <u>46</u>   | 7)54 |  |  |  |  |  |
| B          | <b>Stretch Your Thinking</b> Evaluate the expression $(d - 10) + (d \div 3)$ for $d = 21$ . Explain each step. |      |  |  |  |  |  |
|            |  |      |  |  |  |  |  |





Write an equation to solve the problem. Draw a model if you need to.

Show your work.

Date

There were some people at the arts and crafts fair. Then 347 people went home. Now 498 people are left at the fair. How many people were at the fair to start?

A group of scientists spends 3,980 hours observing the behavior of monarch butterflies. They spend some more hours recording their observations. Altogether, the scientists spend 5,726 hours observing the butterflies and recording their observations. How many hours do the scientists spend recording their observations?

| 4-2<br>Remembering   | Name  |  | Date  |
|--|---|--|-------|
| Solve.   |   |  |       |
| 1 What is 538,152  | 2 rounded to the  | e nearest:   |       |
| a. hundred?  |   | <b>b.</b> thousand?  |       |
| c. ten thousand  | d?  | <b>d.</b> hundred thous  | sand? |
| Draw a rectangle r<br>the ones product, a  | nodel. Find the t<br>and the total pro  | tens product,<br>oduct.  |       |
| <b>2</b> 3 × 65  |   | <b>3</b> 8 × 29  |       |
| Evaluate each exp  | ression.  |  |       |
| <b>4</b> (12 − 4) • (6 + 3   | 3) =  | <b> 5</b> (8 ÷ 2) + (12 -  | 2) =  |
| 6 Stretch Your Th<br>at a children's u<br>there were still<br>there were 112<br>Explain her erro<br>the start of the | i <b>nking</b> There wa<br>used book fair. A<br>493 books rema<br>books at the sta<br>or. How many bo<br>book fair? | ere 381 books sold<br>At the end of the day,<br>aining. Samantha says<br>art of the book fair.<br>boks were there at |       |
|  |   |  |       |

| 4-3<br>Homework  | Name                        | Date                       |  |  |  |  |
|--|-----------------------------|----------------------------|--|--|--|--|
| <ol> <li>Write the eight related multiplication and division<br/>equations for the rectangle model below.</li> </ol> |                             |                            |  |  |  |  |
| 15       6     90  |                             |                            |  |  |  |  |
|  |                             |                            |  |  |  |  |
| Solve each equation  | on.                         |                            |  |  |  |  |
| <b>2</b> r = 200 ÷ 5   | <b>3</b> $12 \times d = 84$ | 4 80 $\div$ 10 = n         |  |  |  |  |
| r =  | d =                         | _ n =                      |  |  |  |  |
| <b>5</b> $120 = 10 \times m$   | 6 88 = 8 × c                | <b>7</b> $100 \div q = 20$ |  |  |  |  |
| <i>m</i> =   | C =                         | q =                        |  |  |  |  |

Write an equation to solve the problem. Draw a model if you need to.

 8 Lucy bought some shrubs to plant in her garden.
 Each shrub cost \$9. If Lucy spent \$216 in all, how many shrubs did she buy? Show your work.

Jeremiah has 592 flyers in stacks of 8 flyers each. How many stacks of flyers did Jeremiah make?

The apples from an average-sized tree will fill
 20 baskets. If an orchard has 17 average-sized trees, how many baskets of apples can it produce?



Name

Use the Algebraic Notation Method to solve the problem. Complete the steps.

**1** 5 · 68 \_\_\_\_\_

# Solve. Use the Place Value Sections and the Expanded Notation Methods for division.



**10** Stretch Your Thinking Write a word problem about puzzle pieces using the equation  $9 \times p = 450$ . Then solve the equation.

Use the shapes to answer Exercises 1-4.



1 How many squares? How many triangles? Use multiplication to find the answers.



4-4

Homework

**2** Because  $4 \times \_\_\_= 12$ , there are  $\_\_\_\_$  times as many squares as triangles.

**3** Write a multiplication equation that compares the number of squares s to the number of triangles t.

Write a division equation that compares the number of triangles t to the number of squares s.

## Solve each comparison problem.

**5** Stephen and Rocco were playing a video game. Stephen scored 2,500 points which is 5 times as many points as Rocco scored. How many points did Rocco score?

6 Nick's dog weighs 72 pounds. Elizabeth's cat weighs 9 pounds. How many times as many pounds does Nick's dog weigh as Elizabeth's cat weighs?

Solve using any numerical method. Use rounding and estimating to see if your answer makes sense.



Stretch Your Thinking Write and solve a word problem to match the comparison bars shown below.



Write and solve an equation to solve each problem. Draw comparison bars when needed.

1 This year, a business had profits of \$8,040. This is 4 times as great as the profits that the business had last year. What were last year's profits?

2 In July 74,371 people visited an art museum. In August 95,595 people visited the art museum. How many fewer people visited the art museum in July than in August?

B Drake has 36 animal stickers. Brenda has 9 animal stickers. How many times as many animal stickers does Drake have as Brenda has?

4 A game is being watched by 60 adults and some children. If there are 20 more adults than children, how many children are watching the game?

5 During the first lunch period, 54 students ate hot

ate hot lunch during the second lunch period?

lunch. This is 9 fewer students than ate hot lunch

during the second lunch period. How many students

6 The Jenkins Family traveled 750 miles by car during the summer. The Palmer Family traveled 3 times as many miles by car this summer. How many miles did the Palmer Family travel?

Show your work.

Name

Copy each exercise, aligning the places correctly. Then add.

**1** 11,931 + 3,428

2 25,422 + 89,360

Draw a rectangle model. Solve using any method that relates to the model.

**3** 3 × 428 \_\_\_\_\_



Write and solve an equation to solve the problem. Draw comparison bars if you need to.

S Virginia sold 84 rolls of wrapping paper this year. She sold 3 times as many rolls of wrapping paper this year as she sold last year. How many rolls of wrapping paper did Virginia sell last year?

6 Stretch Your Thinking There are 1,438 boys and 1,196 girls at a school. How many fewer girls are there than boys?

Write the comparison question for this problem in a different way. Then write and solve an equation to solve the problem. Draw comparison bars if you need to. 4-6 Homework

The graph below shows the amount of snow recorded each month last winter. Use the graph for Problems 1–6.

1 During which month was the amount of snow recorded 12 inches greater than the amount of snow recorded in December?

2 How many fewer inches of snow were recorded in March than were recorded in February?



3 The total amount of snow shown in the graph is 4 times as much snow as was recorded during the winter of 2004. How much snow was recorded during the winter of 2004?

4 Write an addition equation and a subtraction equation that compare the number of inches of snow recorded during December (d) to the number of inches of snow recorded during March (*m*).

5 Write a multiplication equation and a division equation that compare the number of inches of snow recorded during November (n) to the number of inches of snow recorded during January (j).

6 On a separate sheet of paper, write a sentence about the graph that contains the words *times* as much.

| 4<br>R   | -6<br>Remembering   | Name   |   | Date  |  |  |  |  |
|----------|---|--|---|---|--|--|--|--|
| Sk       | Sketch an area model for each exercise. Then find the product.  |  |   |   |  |  |  |  |
| 1        | 28 × 45   | 2  | 53 × 96   |   |  |  |  |  |
| So       | lve using any me  | ethod.   |   |   |  |  |  |  |
| 3        | 9)506   | 4 2)538  | <b>5</b> 7)8,   | 165   |  |  |  |  |
| Wı<br>Dr | rite and solve an<br>aw comparison l  | equation to solve each<br>bars when needed.  | problem.  | Show your work.   |  |  |  |  |
| 6        | Benjamin received 52 emails at work today. This is<br>4 times as many emails as he received yesterday.<br>How many emails did Benjamin receive yesterday?   |  |   |   |  |  |  |  |
| 7        | There are 327 third-grade students on a field trip at the history museum. There are 423 fourth-grade students on the same field trip. How many fewer third-grade students are there than fourth-grade students on the field trip? |  |   |   |  |  |  |  |
| 8        | Stretch Your Th<br>graph. Tatiana s<br>dog owners tha<br>classroom. Expla<br>Then write an e<br>the numbers of<br>owners in the c   | inking Look at the<br>says there are 4 more<br>on fish owners in the<br>ain Tatiana's error.<br>equation that compares<br>dog owners and fish<br>lassroom. | Pet Owners in the second seco | Company<br>Company<br>Company<br>Company<br>Company<br>Company<br>Company<br>Company<br>Company<br>Company<br>Company<br>Company<br>Company |  |  |  |  |

#### Use an equation to solve.

1 The soccer club has 127 members. The baseball club has 97 members. Both clubs will meet to discuss a fundraiser. The members will be seated at tables of 8 members each. How many tables will they use?

2 A hardware store pays \$3,500 for 42 lawnmowers. Then the store sells the lawnmowers for \$99 each. How much profit does the store make from the lawnmower sales?

3 George buys a set of 224 stamps. He gives 44 stamps to a friend. Then he places the remaining stamps into an album with 5 stamps on each page. How many pages does he fill in his album?

Shane and his family go to the movie theater and buy 6 tickets for \$12 each. Then they spend a total of \$31 for popcorn and drinks. How much did Shane and his family spend for tickets, popcorn and drinks at the movie theater?

5 Last year, 226 people attended the school graduation ceremony. This year, the school expects 125 more people than last year. The school has arranged for a van to transport people from the parking area to the ceremony. Each van holds 9 people. How many trips will the van make?

Show your work.



that are needed for the fundraiser? Which equation *cannot* be used to answer this question? Explain.

 $138 \div (6+3) = t$   $(138 \div 6) + 3 = t$ 

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## Use an equation to solve.

1 Rosa and Kate both went shopping. Kate bought a jacket for \$45 and boots for \$42. Rosa bought jeans for \$27, a sweater for \$22, and sneakers. They both spent the same exact amount of money. How much were Rosa's sneakers?

2 Kyle works at a bakery on weekends. On Saturday, Kyle needs to make 120 muffins. Each recipe makes 8 muffins and uses 2 cups of flour. On Sunday, he needs to bake a large batch of cookies that uses 6 cups of flour. How many cups of flour will Kyle use to bake the muffins and the cookies?

3 A toy factory made 715 small stuffed bears and packed them in boxes with 5 bears in each box. Then they made 693 large stuffed bears and packed them in boxes with 3 bears in each box. All the boxes of small and large stuffed bears are loaded into a truck for delivery. How many boxes are loaded into the truck?

4 Last summer, Chris went to Europe and bought postcards from the cities he visited. In France, he visited 6 cities and bought 11 postcards in each city. In Italy, he visited 7 cities and bought 9 postcards in each city. In Spain, he visited 10 cities and bought 15 postcards in each city. How many postcards did Chris buy in Europe?

5 Three fourth grade classes went on a field trip to see a play. Each class had 19 students and 2 adults attending. The rows in the playhouse each seat 9 people. How many rows did the fourth grade classes and adults take up at the playhouse?

Show your work.

| 4-8  | Name  |  | Date               |
|--|---|--|--------------------|
| Remembering  |   |  |                    |
| Add or subtract.   |   |  |                    |
| 1 9,000<br>- 5,613   | <b>2</b> 317,492<br>+ 36,057  | <b>3</b> 6<br>_ 6  | 559,741<br>552,438 |
| Solve. Then explai   | n the meaning of the rem  | ainder.  |                    |
| Jessica needs to<br>Her baking par<br>How many round<br>she need to do | b bake 50 muffins.<br>holds 12 muffins.<br>nds of baking will<br>?                        |  |                    |
| Use an equation to   | o solve.  |  | Show your work.    |
| 5 At the fair, Har<br>\$3 each and a p<br>money did she                | nah bought her family 5<br>bitcher of lemonade for \$6<br>spend in all?                   | hot dogs for<br>5. How much                                |                    |
| 6 Reggie is keepi<br>the remainder<br>sisters. How ma                  | ng 7 of his 31 stuffed anir<br>of his collection evenly am<br>any stuffed animals does e  | nals and splitting<br>nong his 3 younge<br>ach sister get? | er                 |
| <b>7 Stretch Your Th</b><br>the equation (\$<br>the equation to        | <b>inking</b> Write a word prob<br>560 + \$3 – \$15) ÷ \$4 = w. T<br>5 solve the problem. | olem using<br>Then solve                                   |                    |
|  |   |  | _                  |
|  |   |  | _                  |
|  |   |  |                    |

| 4-9 <u>Name</u><br>Homework       | Date                                |
|-----------------------------------|-------------------------------------|
| Solve each problem.               |                                     |
| <b>1</b> $5 \times 7 + 9 = t$     | <b>2</b> $9 \times (1 + 3) = m$     |
| $3 \ 7 - 2 \times 2 = k$          | 4 $(7 \times 2) + (4 \times 9) = w$ |
| <b>5</b> $(7-2) \times (3+2) = r$ | <b>6</b> $8 \times (12 - 7) = v$    |

Whitney and Georgia are at the snack bar buying food for their family. Sandwiches cost \$4 each. Salads cost \$2 each. How much money will it cost them to buy 5 sandwiches and 7 salads?

8 Lisa put tulips and roses into vases. Each vase has 12 flowers. The red vase has 7 tulips. The blue vase has twice as many roses as the red vase. How many roses are in the blue vase?

9 Pam has 9 bags of apples. Each bag contains 6 apples. There are 3 bags of red apples and 1 bag of green apples. The rest of the bags contain yellow apples. How many more yellow apples are there than red apples?

O Clay works on a farm. He packaged eggs into containers that hold 1 dozen eggs each. He filled 4 containers with white eggs and 5 containers with brown eggs. How many eggs did Clay collect? Hint: one dozen eggs = 12 eggs

| 4-9<br>Remembering                        | Name                                   |           | Date             |
|---|--|-----------|------------------|
|   |  |           |                  |
| Subtract. Show you                        | ir new groups.                         |           |                  |
| <b>1</b> 3,146                            | 2 7,504                                | 3         | 6,000            |
| <u> </u>                                  | <u> </u>                               | -         | - 5,241          |
| Solve using any me<br>Use estimation to c | ethod and show your<br>heck your work. | work.     |                  |
| <b>4</b> 23 × 88                          | <b>5</b> 71 × 49                       | 6 62 × 67 | <b>7</b> 15 × 38 |
|   |  |           |                  |

#### Use an equation to solve.

8 An audio book is made up of 8 CDs. Each of the first 7 CDs is 42 minutes long and the final CD is 26 minutes long. Mark plans to listen to the book the same number of minutes for 8 days. How many minutes each day will Mark listen to the audio book?

Stretch Your Thinking A sign shows the price per pound for several bulk food items. Use the information to write a word problem that requires at least 3 steps to solve. Then solve your problem

| Eagd Itom   | Cost      |
|-------------|-----------|
| roou item   | per pound |
| mixed nuts  | \$5       |
| dried fruit | \$3       |
| snack mix   | \$7       |
| wild rice   | \$2       |
| red lentils | \$4       |

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| 4-<br>H | -10<br>omework               | Name              |            |               |                   |        | Date |
|---------|------------------------------|-------------------|------------|---------------|-------------------|--------|------|
| List    | t all the factor             | pairs for eac     | h numb     | er.           |                   |        |      |
| 1       | 49                           |                   |            | 2 71          |                   |        |      |
| 3       | 18                           |                   |            | 4 57          |                   |        |      |
| Wr      | ite whether ea               | ach number is     | prime      | or compos     | ite.              |        |      |
| 5       | 50                           | 6                 | 29         |               | 0                 | 81     |      |
| 8       | 95                           | 9                 | 19         |               | •                 | 54     |      |
| Tel     | whether 6 is                 | a factor of ea    | ch num     | ıber. Write   | yes or no         | <br>D. |      |
| 1       | 6                            | 12 80             |            | <b>B</b> 36   |                   | 14     | 72   |
| Tel     | l whether each               | n number is a     | multip     | e of 8. Wr    | ite <i>yes</i> or | no.    |      |
| Ð       | 64                           | <b>16</b> 32      |            | <b>1</b> 7 88 |                   | 18     | 18   |
| Use     | e the rule to co             | <br>omplete the p | attern.    |               |                   | _      |      |
| 19      | Rule: skip cou               | nt by 11          |            |               |                   |        |      |
|         | 11, 22,                      | .,, 55,           | ,          | ,, 8          | 8, 99             |        |      |
| 20      | Rule: skip cou               | nt by 9           |            |               |                   |        |      |
|         | 9,, 27,                      | , 45, _           | , (        | 63,           | , 81,             |        |      |
| 21      | Rule: skip cou<br>8, 16, 24, | nt by 8<br>,,, _  | <i>,</i> . | , 64          | , 72,             |        |      |

| 4-10               | Name                          |
|--------------------|-------------------------------|
| Remembering        |                               |
| Draw a rectangle m | nodel. Solve using any method |

that relates to the model.

**1** 8 × 1,593 \_\_\_\_\_



Date

Use the correct operation or combination of operations to solve the problem.

3 Melina has 4 sheets of wacky face stickers with 24 stickers on each sheet. Melina cuts each sticker individually from the sheet. She then divides them evenly into 3 piles to give to friends. How many stickers are in each pile?

| So | ve.  |                                 |
|----|--|---------------------------------|
| 4  | $5 \times 4 + 7 = g$   | <b>5</b> (3 × 7) + (2 × 10) = h |
| 6  | 16 – (5 × 3) = m   | <b>7</b> (9 − 3) × (2 + 7) = /  |
| 8  | $(12 - 8) + (3 \times 3) = p$  | <b>9</b> $(24 \div 4) + 19 = t$ |
| 10 | <b>Stretch Your Thinking</b> Use <i>prime</i> or complete the sentence. Then explain | composite to<br>your choice.    |
|    | All even numbers greater than 2 are  |                                 |
|    |  |                                 |
|    |  |                                 |
|    |  |                                 |
|    |  |                                 |

Use the rule to find the next three terms in the pattern.



Rule: multiply by 3

**2** 115, 145, 175, 205, 235, ...

Rule: add 30

# Use the rule to find the first ten terms in the pattern.

**3** First term: 12 Rule: add 25

## Make a table to solve.

 Jay saves \$2 in June, \$4 in July, \$6 in August, and \$8 in September. If the pattern continues, how much money will Jay save in December?

# Describe the next term of each pattern.



| 4-11<br>Remembering   | Name   |  | Date                                 |
|---|--|--|--------------------------------------|
| Subtract.   |  |  |                                      |
| <b>1</b> 491,562<br>- 208,723   |  | <b>2</b> 392,119<br>- 48,319   |                                      |
| Solve.  |  |  | Show your work.                      |
| <ul><li>3 Sid unpacks 8 c</li><li>3,500 paper clip</li></ul>  | artons of paper<br>ps. How many pa   | clips. Each carton cor<br>aper clips is this altog   | ntains<br>Jether?                    |
| Camille unpack<br>of blue pens. E<br>pens does she u  | s 102 boxes of r<br>ach box contains<br>unpack altogeth  | ed pens and 155 boxe<br>s 8 pens. How many<br>er?  | es                                   |
| List all of the facto   | or pairs for each  | number.  |                                      |
| 5 55  |  | 6 14   |                                      |
| Stretch Your The<br>Angelina's dad<br>her \$10 more e<br>end of the year<br>from her dad?<br>show the patte | ninking During t<br>gives her \$10 ar<br>each week for th<br>r, how much mo<br>(Hint: 1 year = 5<br>ern, and explain | the first week of the y<br>nd says that he will gi<br>e rest of the year. At<br>ney will Angelina rec<br>2 weeks) Make a tab<br>your answer. | year,<br>ive<br>the<br>eive<br>le to |
|   |  |  |                                      |

4-12 Homework

Design the blank pot below by drawing a pattern that meets the following conditions.

- ► At least three different shapes are used.
- ► The pattern begins with a square or a circle.
- ► The pattern is repeated at least two times.
- ► At least two different colors are used.



**2** Describe your pattern.

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Suppose 184 students from Wilson Middle School complete this page at home. If each student draws 9 shapes on his or her pot, how many shapes in all would be drawn?

| 4-12<br>Remembering   | Name   | Date   |
|---|--|--|
| Add or subtract.  |  |  |
| 1 8,500<br>- 1,265  | <b>2</b> 24,187<br>- 14,856  | <b>3</b> 683,519<br>+ 292,744  |
| Solve using any me<br>work with estimati  | ethod and show your<br>ion.  | work. Check your   |
| <b>4</b> 19<br><u>× 82</u>  | <b>5</b> 649<br>× 3  | 6 2,934<br>× 8   |
| Use the rule to find  | d the next five terms  | in the pattern.  |
| 3, 6, 12, 24,<br>Rule: multiply b   | by 2   | 8 25, 60, 95, 130,<br>Rule: add 35   |
| Use the rule to find  | d the first ten terms i  | n the pattern.   |
| 9 First term: 18  | Rule: add 12   |  |
| Stretch Your The<br>bakes 2 pans of<br>of 16 lemon dro<br>cookies each. She<br>an equal numbe<br>many of each ty<br>many cookies in | inking For a cookie e<br>12 chocolate chip coo<br>ops each, and 4 pans o<br>ne is dividing the cool<br>er of each type of coo<br>pe of cookie will be i<br>all will be in each tir | xchange, Kaiya<br>okies each, 3 pans<br>of 10 peanut butter<br>cies into 8 tins, with<br>okie in each tin. How<br>n each tin? How<br>n? Explain. |
|   |  |  |