CHAPTER 4
Using Bar Models:
Addition and Subtraction

Practice 1  Using Part-Part-Whole in Addition and Subtraction

Solve.
Use the bar models to help you.

1. Miss Lucy has 27 students in her morning ballet class. She has 39 students in her afternoon ballet class. How many students does she have in both classes?

\[ 27 + 39 = \]?

She has _______ students in both classes.

2. Rani collects 365 beads in January. She collects 419 beads in April. How many beads does she collect in January and April?

\[ 365 + 419 = \]?

She collects ________ beads in January and April.
Solve.
Draw bar models to help you.

3. Mr. Jackson drove 427 miles last week. This week, he drove 215 miles. How many miles did he drive in the two weeks?

He drove _______ miles in the two weeks.

4. 143 men and 62 women go to a concert. How many adults are at the concert?

_______ adults are at the concert.
Solve.
Use the bar models to help you.

5. There are 278 people at a camp.
   26 of them are teachers and the rest are children.
   How many children are there?

\[ 278 - 26 = \] 

There are _______ children.

6. Mr. Wilson packs 431 files in two boxes.
   He packs 216 files in the first box.
   How many files does he pack in the second box?

\[ 431 - 216 = \] 

He packs _______ files in the second box.
Solve.
Draw bar models to help you.

7. A letter carrier delivers 999 letters in two days.
The carrier delivers 306 letters on Monday and
the rest of the letters on Tuesday.
How many letters does the carrier deliver on Tuesday?

The carrier delivers _________ letters on Tuesday.

8. A factory makes 674 toys in two days.
325 toys are made on the first day.
How many toys does the factory make on the second day?

The factory makes _________ toys on the second day.
Practice 2 Adding On and Taking Away Sets

Solve.
Use the bar models to help you.

1. Luke has 83 toy cars.
   His brother gives him 52 more toy cars.
   How many toy cars does he have altogether?

   $$83 + 52 = \_\_\_\_\_\_\_\_\_\_$$

   He has ______ toy cars altogether.

2. Daniel has 228 craft sticks for his project.
   He needs 350 more craft sticks.
   How many craft sticks does he need for his project?

   He needs ________ craft sticks for his project.
Solve.
Draw bar models to help you.

3. The Bokil family drives 95 miles on the first day of their trip. They drive another 105 miles on the next day. How many miles do they drive in the two days?

They drive _________ miles in the two days.

4. Kayla has 9 puzzles. Her mother gives her 8 more puzzles. Her uncle buys another 5 puzzles for her. How many puzzles does Kayla have now?

She has _________ puzzles now.
Solve.
Use the bar models to help you.

5. Town Sports has 99 scooters. The store sells some of them and has 45 scooters left. How many scooters does Town Sports sell?

\[ 99 - 45 = \text{_______} \]

Town Sports sold \text{_______} scooters.

6. There were 367 bicycles at Ben’s bicycle shop. 174 bicycles are rented. How many bicycles are left?

\[ \text{_______} \text{ bicycles are left.} \]
Solve.
Draw bar models to help you.

7. Shawn has 405 stickers. He gives 278 stickers away. How many stickers does he have left?

He has __________ stickers left.

8. There were 282 people in the park on Sunday afternoon. In the evening, 199 people went home. How many people were left in the park?

__________ people were left in the park.
Practice 3  Comparing Two Sets

Solve.
Complete the bar models to help you.

1. 102 children at a swimming pool do not wear goggles.
   23 more children wear goggles than those who do not wear goggles.
   How many children wear goggles?

   Without goggles

   With goggles

   _______ children wear goggles.

2. Alice made 166 ham sandwiches for a party.
   She made 77 fewer cheese sandwiches than ham sandwiches for the party.
   How many cheese sandwiches did Alice make?

   Ham sandwiches

   Cheese sandwiches

   Alice made _________ cheese sandwiches.
Solve.
Draw bar models to help you.

3. Sam makes 123 party favors.
   Lily makes 87 more party favors than Sam.
   How many party favors does Lily make?

   Lily makes ________ party favors.

4. 952 children watch a funny movie.
   265 fewer adults than children watch the funny movie.
   How many adults watch the funny movie?

   _________ adults watch the funny movie.
**Solve.**
Complete the bar models to help you.

5. Mr. Diaz has 347 apple trees in his orchard. He has 162 more apple trees than peach trees in his orchard. How many peach trees does Mr. Diaz have in his orchard?

Mr. Diaz has ________ peach trees in his orchard.

6. Shop A sells 97 television sets in December. It sells 166 fewer television sets than Shop B in December. How many television sets does Shop B sell in December?

Shop B sells ________ television sets in December.
7. The school cook orders 219 hamburgers.
   He orders 120 more hamburgers than hot dogs.
   How many hot dogs does the school cook order?

The school cook orders _________ hot dogs.

8. 234 flag twirlers march in the Fourth of July parade.
   There are 159 fewer flag twirlers than band members at the parade.
   How many band members are at the parade?

_________ band members are at the parade.
Practice 4  Real-World Problems: Two-Step Problems

Solve.
Complete the bar models to help you.

1. Mr. Kim has 78 boxes of apples and 130 boxes of oranges. He sells some boxes of oranges. Now he has 159 boxes of apples and oranges left.
   a. How many boxes of apples and oranges did Mr. Kim have at first?
   b. How many boxes of oranges did Mr. Kim sell?

   a.
   \[
   \begin{array}{c}
   \text{apples} \\
   \text{oranges} \\
   \? \\
   \end{array}
   \]

   Mr. Kim had \underline{217} boxes of apples and oranges at first.

   b.
   \[
   \begin{array}{c}
   \? \\
   \end{array}
   \]

   Mr. Kim sold \underline{10} boxes of oranges.
Solve.
Complete the bar models to help you.

2. Sophie has 356 stamps in her collection. Rita has 192 stamps more than Sophie.
   a. How many stamps does Rita have?
   b. How many stamps do they have in all?

   a. Rita has ________ stamps.

   b. They have ________ stamps in all.
Solve.
Draw bar models to help you.

3. Kennedy Elementary School has 784 students. 325 students are boys.
   a. How many girls are in the school?
   b. How many more girls than boys are in the school?

   a. ________ girls are in the school.

   b. ________ more girls are in the school than boys.
Solve.
Draw bar models to help you.

4. Club A has 235 male members, and 172 female members. 45 new members join the club.
   a. How many members were in the club at first?
   b. How many members are in the club now?

   a. _________ members were in the club at first.

   b. _________ members are in the club now.
5. Kate’s grandmother had $245. She spends $78. Then she gives $36 to Kate. How much money does Kate’s grandmother have now?

First, find how much she has left after spending $78. She has ______ now.
Solve.
Draw bar models to help you.

6. There are 147 daisy plants and 32 tulip plants in Nursery X. Nursery Y has 66 fewer daisy and tulip plants than Nursery X. How many daisy and tulip plants are there in Nursery Y?

There are _________ daisy and tulip plants in Nursery Y.
Math Journal

Write an addition story or a subtraction story for each bar model. Then solve.

1. [Diagram of two bars: 36 and 16]
   - Write your story here:
   - Then solve:

2. [Diagram of two bars: 44 and 63]
   - Write your story here:
   - Then solve:
Write an addition story or a subtraction story for the bar model. Then solve.

3. 

[Bar model diagram]

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Put On Your Thinking Cap!

Problem Solving

Solve.

1. Sean has 24 fewer toys than Winona. After Winona gives some toys to Sean, both of them have the same number of toys. How many toys does Winona give Sean?

Winona gives Sean ________ toys.
2. Nadia has 20 more postcards than Pete. After Nadia gives Pete some postcards, Pete has 2 more postcards than Nadia. How many postcards does Nadia give to Pete?

Nadia gives Pete __________ postcards.
Chapter Review/Test

Vocabulary

Fill in the blanks.
Use the words in the box.

<table>
<thead>
<tr>
<th>add</th>
<th>subtract</th>
<th>compare</th>
<th>sets</th>
</tr>
</thead>
</table>

1. In this model, you ________ two ________ of data.

2. To find how many more apricots there are than peaches, you ________.

3. To find the total number of apricots and peaches, you ________.
Concepts and Skills

Fill in each circle with + or –.

Then fill in the blanks.

4. 38 21
   \[ ? \]
   \[ 38 \bigcirc 21 = \_ \_ \_ \_ \_ \_ \_ \_ \_ \]

5. 50 38
   \[ ? \]
   \[ 50 \bigcirc 38 = \_ \_ \_ \_ \_ \_ \_ \_ \_ \]

6. 45 12
   \[ ? \] \[ ? \]
   \[ 45 \bigcirc 12 = \_ \_ \_ \_ \_ \_ \_ \_ \_ \]

7. 78 52
   \[ ? \] \[ 52 \]
   \[ 78 \bigcirc 52 = \_ \_ \_ \_ \_ \_ \_ \_ \_ \]

Andy reads 56 more pages of his book on Monday than on Tuesday. He reads 125 pages on Monday. How many pages in all does he read on Monday and Tuesday?
Problem Solving

Solve.
Draw bar models to help you.

8. A jewelry store has 198 rings and bracelets altogether. It has 89 bracelets. How many more rings than bracelets does the store have?

The store has ________ more rings than bracelets.

9. Andy reads 56 more pages of his book on Monday than on Tuesday. He reads 125 pages on Monday. How many pages in all does he read on Monday and Tuesday?

He reads ________ pages in all.
10. An office has 223 workers.  
132 of the workers are men.  
How many more men work in the office than women?

________ more men work in the office than women.

11. A furniture shop has 581 tables and chairs in all.  
There are 125 tables.  
How many more chairs than tables are there in the shop?

There are ______ more chairs than tables in the shop.