Lesson 44

Note: Students will need a ruler that shows inches and centimeters for Independent Work, Workbook part 4.

EXERCISE 1: COLUMN SUBTRACTION
RENAMING

a. (Display:)   [44:1A]

$$\begin{array}{r} 6\,2 \\ -\,2\,9 \\ \end{array}$$

- Read the problem. (Signal.) *62 – 29.*
- Read the problem for the ones. (Signal.) *2 – 9.*
- Can you work that problem? (Signal.) *No.*
  So you have to rewrite a number.
- Read the number you'll rewrite. (Signal.) *62.*

b. Say the new place value for 62. (Signal.)
  50 + 12.
  (Add to show:)   [44:1B]

$$\begin{array}{r} 5 \\ \cancel{6}\,{}^{1}2 \\ -\,2\,9 \\ \end{array}$$

- Say the new problem for the ones. (Signal.)
  12 – 9.
  What's the answer? (Signal.) *3.*
- Say the new problem for the tens. (Signal.)
  5 – 2.
  What's the answer? (Signal.) *3.*
  (Add to show:)   [44:1C]

$$\begin{array}{r} 5 \\ \cancel{6}\,{}^{1}2 \\ -\,2\,9 \\ \hline 3\,3 \\ \end{array}$$

I'll read the problem we started with and the answer: 62 – 29 = 33.
- Everybody, read the problem and the answer. (Signal.) *62 – 29 = 33.*
  (Repeat until firm.)

c. (Display:)   [44:1D]

$$\begin{array}{r} 9\,1 \\ -\,7\,2 \\ \end{array}$$

- Read the problem. (Signal.) *91 – 72.*
- Read the problem for the ones. (Signal.) *1 – 2.*
- Can you work that problem? (Signal.) *No.*
  So you have to rewrite a number.
- Read the number you'll rewrite. (Signal.) *91.*

d. Say the new place value for 91. (Signal.)
  80 + 11.
  (Add to show:)   [44:1E]

$$\begin{array}{r} 8 \\ \cancel{9}\,{}^{1}1 \\ -\,7\,2 \\ \end{array}$$

- Say the new problem for the ones. (Signal.)
  11 – 2.
  What's the answer? (Signal.) *9.*
- Say the new problem for the tens. (Signal.)
  8 – 7.
  What's the answer? (Signal.) *1.*
  (Add to show:)   [44:1F]

$$\begin{array}{r} 8 \\ \cancel{9}\,{}^{1}1 \\ -\,7\,2 \\ \hline 1\,9 \\ \end{array}$$

- Everybody, read the problem we started with and the answer. (Signal.) *91 – 72 = 19.*
  (Repeat until firm.)

EXERCISE 2: GEOMETRY
2-DIMENSIONAL SHAPES

a. (Display:)   [44:2A]

b. These are shapes you know.
• What's the name of the shape that has 4 straight sides? (Signal.) *Rectangle.*
• What's the name of the shape that has 3 straight sides? (Signal.) *Triangle.*
• What's the name of the shape that has no straight sides? (Signal.) *Circle.*

c. Your turn to say the names of these shapes.
• (Point to **triangle**.) What's this shape? (Signal.) *Triangle.*
• (Point to **circle**.) What's this shape? (Signal.) *Circle.*
• (Point to **rectangle**.) What's this shape? (Signal.) *Rectangle.*
(Repeat until firm.)

––––––––––––– **WORKBOOK PRACTICE** –––––––––––––

a. Open your workbook to Lesson 44 and find part 1. ✔
(Teacher reference:)
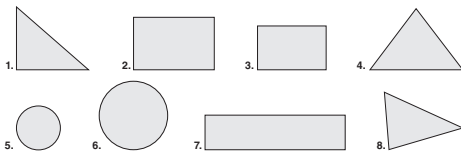
b. You're going to write the letter **R** inside all the rectangles.
• What letter goes inside each rectangle? (Signal.) *R.*
• What letter goes inside each triangle? (Signal.) *T.*
And **C** goes inside each circle.

c. Write a letter in each shape.
(Observe students and give feedback.)

d. Check your work.
• Shape 1. What's the name? (Signal.) *Triangle.* What letter did you write? (Signal.) *T.*
• Shape 2. What's the name? (Signal.) *Rectangle.* What letter did you write? (Signal.) *R.*
• Shape 3. What's the name? (Signal.) *Rectangle.* What letter did you write? (Signal.) *R.*

• Shape 4. What's the name? (Signal.) *Triangle.* What letter did you write? (Signal.) *T.*
• Shape 5. What's the name? (Signal.) *Circle.* What letter did you write? (Signal.) *C.*
• Shape 6. What's the name? (Signal.) *Circle.* What letter did you write? (Signal.) *C.*
• Shape 7. What's the name? (Signal.) *Rectangle.* What letter did you write? (Signal.) *R.*
• Shape 8. What's the name? (Signal.) *Triangle.* What letter did you write? (Signal.) *T.*

EXERCISE 3: FACT REVIEW
SMALL NUMBER OF 10 OR 9

a. (Display:)   [44:3A]

b. (Point to **left column**.) These families have a small number of 10.
• (Point to **right column**.) These families have a small number of 9.

c. Here's a rule about families that have a small number of 9: The big number is 1 less than the family that has a small number of 10.

d. (Point to $\overset{10\quad 1}{\longrightarrow}$.) What's the big number for this family? (Signal.) *11.*
• (Point to $\overset{9\quad 1}{\longrightarrow}$.) The big number for this family is 1 less than 11. What's the big number? (Signal.) *10.*
e. (Point to $\overset{10\quad 2}{\longrightarrow}$.) What's the big number for this family? (Signal.) *12.*
• (Point to $\overset{9\quad 2}{\longrightarrow}$.) What's 1 less than 12? (Signal.) *11.*
• So what's the big number for this family? (Signal.) *11.*
f. (Point to $\overset{10\quad 3}{\longrightarrow}$.) What's the big number for this family? (Signal.) *13.*
• (Point to $\overset{9\quad 3}{\longrightarrow}$.) So what's the big number for this family? (Signal.) *12.*
g. (Point to $\overset{10\quad 4}{\longrightarrow}$.) What's the big number for this family? (Signal.) *14.*
• (Point to $\overset{9\quad 4}{\longrightarrow}$.) So what's the big number for this family? (Signal.) *13.*
h. (Point to $\overset{10\quad 5}{\longrightarrow}$.) What's the big number for this family? (Signal.) *15.*
• (Point to $\overset{9\quad 5}{\longrightarrow}$.) So what's the big number for this family? (Signal.) *14.*
(Repeat until firm.)
i. This time I'll tell you the small numbers. You'll tell me the big number.
j. (Point to $\overset{10\quad 1}{\longrightarrow}$.) The small numbers are 10 and 1.
What's the big number? (Signal.) *11.*
• (Point to $\overset{9\quad 1}{\longrightarrow}$.) The small numbers are 9 and 1.
What's the big number? (Signal.) *10.*
k. (Point to $\overset{10\quad 4}{\longrightarrow}$.) The small numbers are 10 and 4.
What's the big number? (Signal.) *14.*
• (Point to $\overset{9\quad 4}{\longrightarrow}$.) The small numbers are 9 and 4.
What's the big number? (Signal.) *13.*
l. (Point to $\overset{10\quad 7}{\longrightarrow}$.) The small numbers are 10 and 7.
What's the big number? (Signal.) *17.*
• (Point to $\overset{9\quad 7}{\longrightarrow}$.) The small numbers are 9 and 7.
What's the big number? (Signal.) *16.*
(Repeat until firm.)

▬▬▬ **WORKBOOK PRACTICE** ▬▬▬

a. Find part 2 in your workbook. ✔
• Pencils down. ✔
(Teacher reference:)

a. $\overset{9\quad 3}{\longrightarrow}$ ___	d. $\overset{9\quad 7}{\longrightarrow}$ ___	g. $\overset{9\quad 4}{\longrightarrow}$ ___
b. $\overset{9\quad 8}{\longrightarrow}$ ___	e. $\overset{9\quad 9}{\longrightarrow}$ ___	h. $\overset{9\quad 2}{\longrightarrow}$ ___
c. $\overset{9\quad 5}{\longrightarrow}$ ___	f. $\overset{9\quad 1}{\longrightarrow}$ ___	i. $\overset{9\quad 6}{\longrightarrow}$ ___

These are number families that have a small number of 9. You're going to figure out the big number for each family.
b. Family A: What are the small numbers? (Signal.) *9 and 3.*
• Think of the family with 10 and 3. What's the big number for that family? (Signal.) *13.*
• So what's the big number for the family with 9 and 3? (Signal.) *12.*
c. Family B: What are the small numbers? (Signal.) *9 and 8.*
• Think of the family with 10 and 8. What's the big number for that family? (Signal.) *18.*
• So what's the big number for the family with 9 and 8? (Signal.) *17.*
d. Family C: What are the small numbers? (Signal.) *9 and 5.*
• Think of the family with 10 and 5. What's the big number for that family? (Signal.) *15.*
• So what's the big number for the family with 9 and 5? (Signal.) *14.*
e. Family D: What are the small numbers? (Signal.) *9 and 7.*
• Think of the family with 10 and 7. What's the big number for that family? (Signal.) *17.*
• So what's the big number for the family with 9 and 7? (Signal.) *16.*
f. Remember, if a family has a small number of 9, think of the family with a small number of 10.
• Write the missing big number for each family. (Observe students and give feedback.)

g. Check your work.
- Family A. What are the small numbers? (Signal.) *9 and 3.*
 What's the big number? (Signal.) *12.*
- Family B. What are the small numbers? (Signal.) *9 and 8.*
 What's the big number? (Signal.) *17.*
- C. What are the small numbers? (Signal.) *9 and 5.*
 What's the big number? (Signal.) *14.*
- D. What are the small numbers? (Signal.) *9 and 7.*
 What's the big number? (Signal.) *16.*
- E. What are the small numbers? (Signal.) *9 and 9.*
 What's the big number? (Signal.) *18.*
- F. What are the small numbers? (Signal.) *9 and 1.*
 What's the big number? (Signal.) *10.*
- G. What are the small numbers? (Signal.) *9 and 4.*
 What's the big number? (Signal.) *13.*
- H. What are the small numbers? (Signal.) *9 and 2.*
 What's the big number? (Signal.) *11.*
- I. What are the small numbers? (Signal.) *9 and 6.*
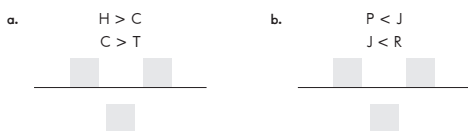 What's the big number? (Signal.) *15.*

EXERCISE 4: TRANSITIVITY
WITH LETTERS   REMEDY

a. Find part 3 in your workbook. ✔
 (Teacher reference:)   R Part E

a.   H > C   b.   P < J
          C > T   J < R
   _____ _____   _____ _____

       _____   _____

b. Touch problem A. ✔
 These statements tell about H, C, and T.
- Read the top statement. (Signal.) *H is more than C.*
- Read the other statement. (Signal.) *C is more than T.*

c. Write the three letters on the line. Write H as the first letter. Write the signs between the three letters.
 (Observe students and give feedback.)
d. Check your work.
 (Display:)   [44:4A]

> a. H > C > T

 Here's what you should have.
 H is more than C. C is more than T.
- On the line below, write the statement about H and T. ✔
 (Add to show:)   [44:4B]

> a. H > C > T
>   H > T

 Here's that you should have. H is more than T.
e. Problem B: These statements tell about P, J, and R.
- Read the first statement. (Signal.) *P is less than J.*
- Read the second statement. (Signal.) *J is less than R.*
f. Write the three letters on the line. Write P as the first letter. Write the signs between the three letters.
 (Observe students and give feedback.)
g. Check your work.
 (Display:)   [44:4C]

> b. P < J < R

 Here's what you should have.
 P is less than J, and J is less than R.
- Below, write the statement about P and R. ✔
 (Add to show:)   [44:4D]
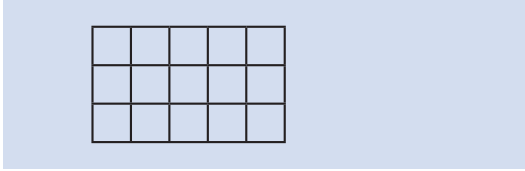
> b. P < J < R
>   P < R

 Here's what you should have.
- Read the statement. (Signal.) *P is less than R.*

EXERCISE 5: MULTIPLICATION
ARRAYS

a. (Display:) [44:5A]

You're going to figure out how many squares there are. But you won't count all of them. You'll work a count-by problem.

b. Count the squares in the top row. Get ready. (Touch as students count:) *1, 2, 3, 4, 5.*
• How many squares are in the top row? (Signal.) *5.*
• So how many squares are in the next row? (Signal.) *5.*
• How many squares are in the bottom row? (Signal.) *5.*

c. Listen: There are 5 squares in each row. So you count by 5.
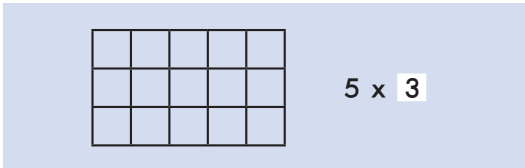• What do you count by? (Signal.) *5.*
(Add to show:) [44:5B]
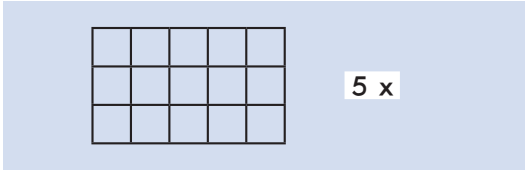
Yes, you count by 5.

d. Listen: You count by 5 for each row because each row has 5 squares.
Once more: You count by 5 for each row.
• How many rows are there? (Signal.) *3.*
• So how many times do you count by 5? (Signal.) *3.*
Yes, count by 5 three times.
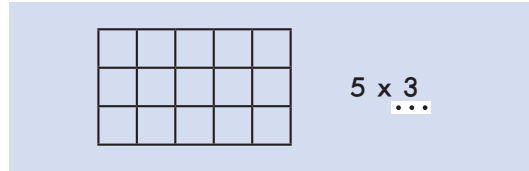• Say that. (Signal.) *Count by 5 three times.*
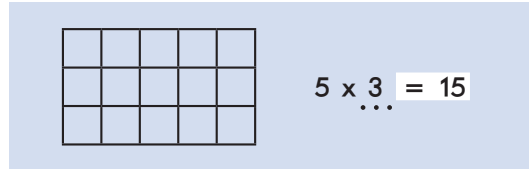(Add to show:) [44:5C]

e. I make a dot for each row. (Add to show:) [44:5D]

• Everybody, count by 5 three times. (Signal.) *5, 10, 15.*
• What's the answer? (Signal.) *15.*
(Add to show:) [40:5E]

• How many squares are there? (Signal.) *15.*
f. Let's see if the answer is right.
• I'll touch the squares. You count. (Touch squares as students count:) *1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15.*
• How many squares are there? (Signal.) *15.*
You figured out that answer the fast way.

g. (Display:) [44:5F]
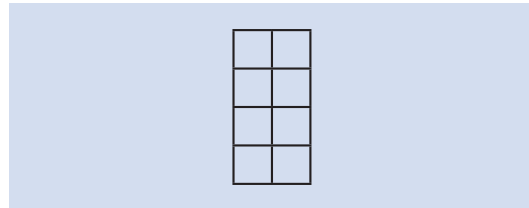
Here's a new problem.
• Raise your hand when you know how many squares are in each row. ✔
• How many squares are in each row? (Signal.) *2.*
• So what do we count by? (Signal.) *2.*
(Add to show:) [44:5G]

h. Raise your hand when you know how many rows there are. ✔
• How many rows are there? (Signal.) *4.*
• So how many times do we count? (Signal.) *4.*
   (Add to show:)   [44:5H]

2 x 4

My turn to say the problem we'll work: 2 times 4.
• Say the problem we'll work. (Signal.) *2 x 4.*
i. I make a dot for each row.
   (Add to show:)   [44:5I]

2 x 4.

• Everybody, count by 2 four times. (Signal.) *2, 4, 6, 8.*
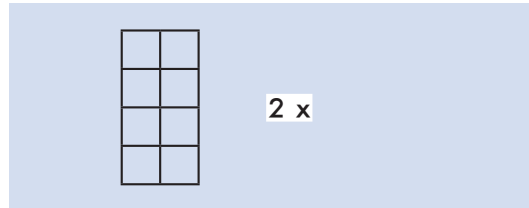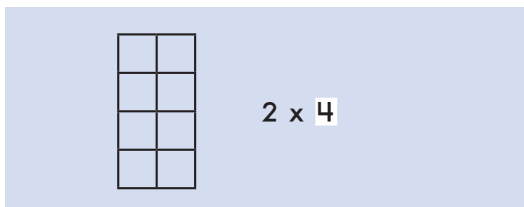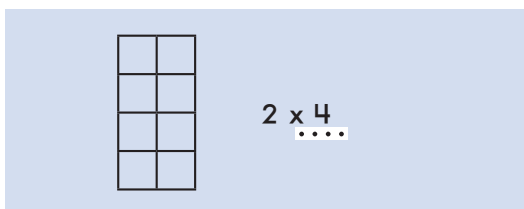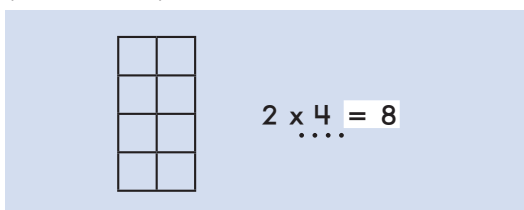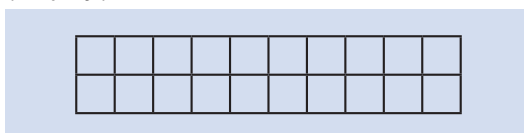• What's the answer? (Signal.) *8.*
   (Add to show:)   [44:5J]

2 x 4. = 8

• Let's count all the squares and see if there are 8 squares. (Touch as students count:) *1, 2, 3, 4, 5, 6, 7, 8.*
   You figured out the answer the fast way.
j. (Display:)   [44:5K]

New problem.
• Raise your hand when you know how many squares are in each row. ✔

• How many squares are in each row? (Signal.) *10.*
   (Add to show:)   [44:5L]

10 x
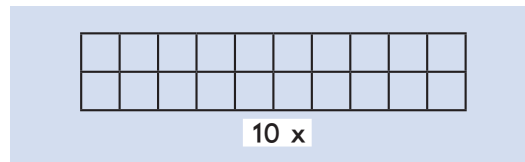
k. Raise your hand when you know how many rows there are. ✔
• How many rows are there? (Signal.) *2.*
   We'll work the problem 10 times 2.
• Say the problem we'll work. (Signal.) *10 x 2.*
   (Add to show:)   [44:5M]

10 x 2
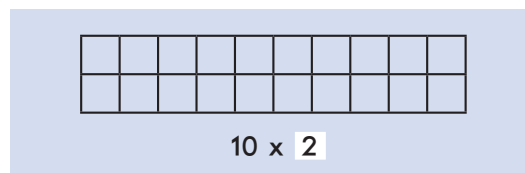
l. I make a dot for each row.
   (Add to show:)   [44:5N]

10 x 2
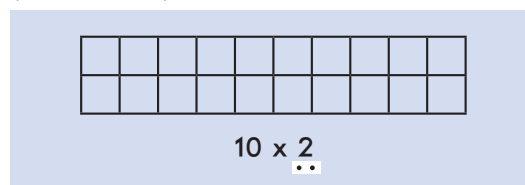
• Everybody, count by 10 two times. (Signal.) *10, 20.*
• What's the answer? (Signal.) *20.*
   (Add to show:)   [44:5O]

10 x 2 = 20
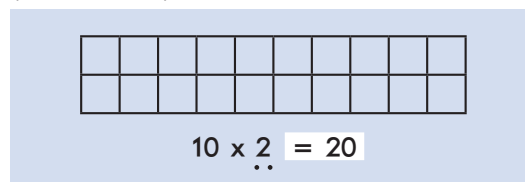
• Let's count all the squares and see if there are 20 squares. (Touch as students count:) *1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20.*
   You figured out the answer the fast way.

EXERCISE 6: COMPARISON VOCABULARY
OLDER/LONGER/TALLER

a. (Display:)   [44:6A]

Ann   Dan

14 years old   11 years old
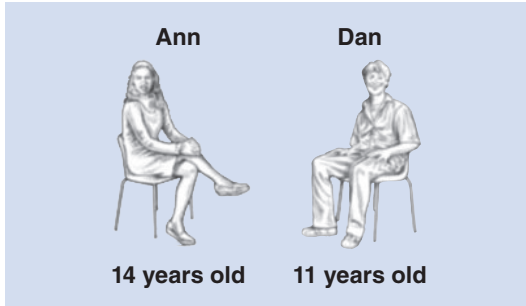
Listen: Ann is 14 years old.
Dan is 11 years old.
- How old is Ann? (Signal.) *14 years old.*
- How old is Dan? (Signal.) *11 years old.*
b. Who is younger—Ann or Dan? (Signal.) *Dan.*
- Who is older—Ann or Dan? (Signal.) *Ann.*
Yes, Ann is older than Dan.
- Say the sentence. (Signal.) *Ann is older than Dan.*
Dan is younger than Ann.
- Say the sentence. (Signal.) *Dan is younger than Ann.*
c. (Display:)   [44:6B]

Pete   Mary

6 feet tall   5 feet tall

Listen: Pete is 6 feet tall.
Mary is 5 feet tall.
- How tall is Pete? (Signal.) *6 feet tall.*
- How tall is Mary? (Signal.) *5 feet tall.*
- Who is shorter—Pete or Mary? (Signal.) *Mary.*
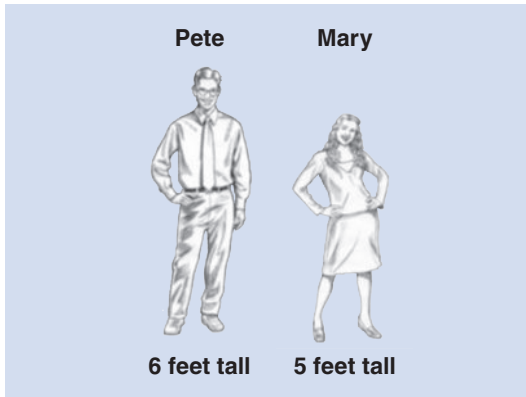- Who is taller? (Signal.) *Pete.*

d. (Display:)   [44:6C]

car
15 feet long
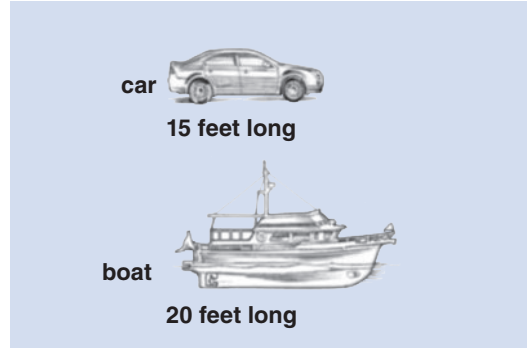
boat
20 feet long

Listen: The car is 15 feet long.
The boat is 20 feet long.
- How long is the car? (Signal.) *15 feet.*
- How long is the boat? (Signal.) *20 feet.*
- Which is longer—the car or the boat? (Signal.) *The boat.*
- Which is shorter? (Signal.) *The car.*
e. (Display:)   [44:6D]

The house is 30 feet tall.
The garage is 11 feet tall.

(Touch and read:) The house is 30 feet tall.
The garage is 11 feet tall.
- How tall is the house? (Signal.) *30 feet.*
- How tall is the garage? (Signal.) *11 feet.*
- Which is shorter—the house or the garage? (Signal.) *The garage.*
- Which is taller? (Signal.) *The house.*
f. (Display:)   [44:6E]

The bike was 6 feet long.
The bus was 60 feet long.

(Touch and read:) The bike was 6 feet long.
The bus was 60 feet long.
- How long was the bike? (Signal.) *6 feet.*
- How long was the bus? (Signal.) *60 feet.*
- Which was longer—the bike or the bus? (Signal.) *The bus.*
- Which was shorter? (Signal.) *The bike.*

EXERCISE 7: ACTION WORD PROBLEMS
START/END NUMBER GIVEN

a. (Hand out textbooks and lined paper.)
- Write your name at the top of your lined paper. ✔
b. Open your textbook to Lesson 44 and find part 1. ✔
(Teacher reference:)

a. A train started out with 60 people.
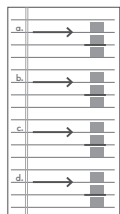Then 31 more people got on the train.
How many people ended up on the train?

b. A train started out with some people.
Then 81 more people got on the train.
The train ended up with 194 people.
How many people started out on the train?

c. A train started out with some people on it.
Then 12 people got off the train.
The train ended up with 100 people.
How many people started out on the train?

d. A train started out with 90 people.
Then 40 people got off the train.
How many people ended up on the train?

You'll make a number family for each problem.
- Write **A** in front of the margin and make a number family arrow. ✔
- Count 4 lines and make the arrow for **B**. Then count lines and make the arrows for **C** and **D**. Your arrows should look just like the picture in part 1.
(Observe students and give feedback.)
c. These are start-end problems. Some of these problems give a number for start. Some give a number for end.
d. Problem A: A train started out with 60 people. Then 31 more people got on the train. How many people ended up on the train?
- Make the number family with letters for start and end and with two numbers. ✔
(Display:)   [44:7A]

> a. $\underline{\ 31 \quad \cancel{}\,}_{60}\!\!\rightarrow$E

Here's what you should have.
- Touch where you'll write the column problem for family A. ✔
- Write the problem and work it. Remember to put the answer in the number family.
(Observe students and give feedback.)

e. Check your work.
(Add to show:)   [44:7B]

> a. $\underline{\ 31 \quad \cancel{}\,}_{60}\!\!\overset{91}{\rightarrow}\cancel{E}$ $\begin{array}{r} 31 \\ +60 \\ \hline 91 \end{array}$

Here's what you should have.
- Everybody, read the problem and the answer. (Signal.) *31 + 60 = 91.*
- How many people ended up on the train? (Signal.) *91.*
f. Problem B: A train started out with some people. Then 81 more people got on the train. The train ended up with 194 people. How many people started out on the train?
- Make the number family with letters for start and end and with two numbers. ✔
(Display:)   [44:7C]

> b. $\underline{\ 81 \quad S\,}_{194}\!\!\rightarrow\!E$

Here's what you should have.
- Touch where you'll write the column problem for family B. ✔
- Write the problem and work it. Remember to put the answer in the number family.
(Observe students and give feedback.)
g. Check your work.
(Add to show:)   [44:7D]

> b. $\underline{\ 81 \quad \cancel{S}\,}_{194}^{113}\!\!\rightarrow\!E$ $\begin{array}{r} 194 \\ -81 \\ \hline 113 \end{array}$

Here's what you should have.
- Everybody, read the problem and the answer. (Signal.) *194 − 81 = 113.*
- How many people started out on the train? (Signal.) *113.*

h. Problem C: A train started out with some people on it. Then 12 people got off the train. The train ended up with 100 people. How many people started out on the train?
• Make the number family with letters for start and end and with two numbers. ✔
(Display:)   [44:7E]

$$\overset{100}{\underset{c.\quad \underline{12\quad \cancel{E}}\to S}{}}$$

Here's what you should have.
• Write the problem for family C and work it.
(Observe students and give feedback.)
i. Check your work.
(Add to show:)   [44:7F]

$$\overset{100}{\underset{c.\quad \underline{12\quad \cancel{E}}\to\cancel{S}}{}}\ 112 \qquad \begin{array}{r} 1\,2 \\ +\,1\,0\,0 \\ \hline 1\,1\,2 \end{array}$$

Here's what you should have.
• Everybody, read the problem and the answer. (Signal.) *12 + 100 = 112.*
• How many people started out on the train? (Signal.) *112.*
j. Problem D: A train started out with 90 people. Then 40 people got off the train. How many people ended up on the train?
• Make the number family with letters for start and end and with two numbers. ✔
(Display:)   [44:7G]

$$\overset{90}{\underset{d.\quad \underline{40\quad E}\to\cancel{S}}{}}$$

Here's what you should have.
• Write the problem for family D and work it.
(Observe students and give feedback.)
k. Check your work.
(Add to show:)   [44:7H]

$$\overset{50}{\underset{d.\quad \underline{40\quad \cancel{E}}\to\cancel{S}}{}}\ \overset{90}{} \qquad \begin{array}{r} 9\,0 \\ -\,4\,0 \\ \hline 5\,0 \end{array}$$

Here's what you should have.
• Everybody, read the problem and the answer. (Signal.) *90 – 40 = 50.*
• How many people ended up on the train? (Signal.) *50.*
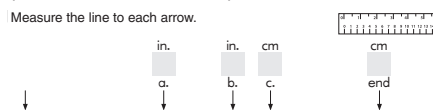
EXERCISE 8: INDEPENDENT WORK
MULTIPLICATION/MEASUREMENT/INEQUALITY

a. Find part 2 in your textbook. ✔
(Teacher reference:)

• Count 4 lines and write A. ✔
The picture shows how to skip lines for these problems. You'll copy and work these problems as part of your independent work.
b. Find part 4 in your workbook. ✔
(Teacher reference:)

I'll read the directions: **Measure the line to each arrow.**
Be careful. For some, you'll write inches. For some, you'll write centimeters.
• Touch A. Do you measure in inches or centimeters? (Signal.) *Inches.*
• Touch C. Do you measure in inches or centimeters? (Signal.) *Centimeters.*
c. Find part 5 in your workbook. ✔
(Teacher reference:)
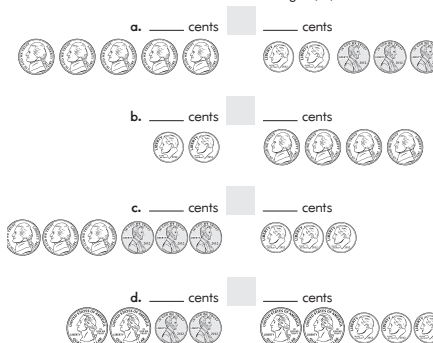
I'll read the directions: **Write the cents for each side. Then make the sign more than, less than, or equal to.**
d. You'll work these coin problems as part of your independent work.

Assign Independent Work, Textbook part 2 and Workbook parts 4–11.

Lesson 44

Name _____

Part 1 Write the letter **R**, **T**, or **C** in each shape.

1.   2.   3.   4.

5.   6.   7.   8.

Part 2

a. 9 ___ 3 → ___   d. 9 ___ 7 → ___   g. 9 ___ 4 → ___

b. 9 ___ 8 → ___   e. 9 ___ 9 → ___   h. 9 ___ 2 → ___

c. 9 ___ 5 → ___   f. 9 ___ 1 → ___   i. 9 ___ 6 → ___
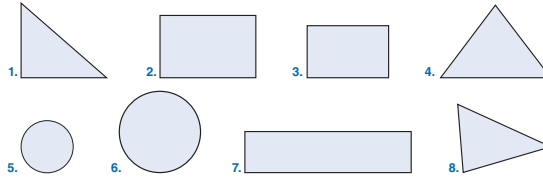
Part 3

a.   H > C   b.   P < J
     C > T   J < R

Independent Work

Part 4 Measure the line to each arrow.

in.   in.   cm   cm

a.   b.   c.   end
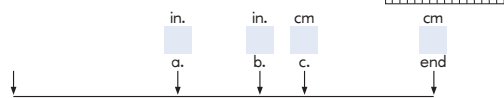
Connecting Math Concepts   Lesson 44   **115**

Lesson 44

Name _____

Part 5 Write the cents for each side. Then make the sign >, <, or =.

a. _____ cents   ☐   _____ cents

b. _____ cents   ☐   _____ cents

c. _____ cents   ☐   _____ cents

d. _____ cents   ☐   _____ cents

Part 6

a. 10 + 367 = _____   b. 418 + 10 = _____

c. 103 + 10 = _____   d. 10 + 412 = _____

Part 7

a. 10 x 6 = _____   b. 4 x 3 = _____

c. 2 x 5 = _____   d. 5 x 4 = _____

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Connecting Math Concepts   *Teacher's Guide*   **159**

Lesson 44

Name _____

Part 8

a.
$$573 - 562$$

b.
$$462 + 229$$

c.
$$627 - 417$$

Part 9 Write 2 subtraction facts.

a. ■ —3→ 7

_____

_____

b. ■ —3→ 11

_____

_____

c. ■ —3→ 6

_____

d. ■ —3→ 8

_____

_____

e. ■ —3→ 10

_____

_____

f. ■ —3→ 9

_____

Part 10 Write the missing numbers.

a. 54 63 _____ _____ _____

b. 16 20 _____ _____ _____ _____ _____

Part 11

a.	b.	c.	d.	e.	f.	g.	h.
9	4	3	5	19	10	6	9
− 3	+ 2	+ 6	+ 4	− 9	− 3	− 3	+ 3

Lesson 44

Part 1

a. A train started out with 60 people.
   Then 31 more people got on the train.
   How many people ended up on the train?

b. A train started out with some people.
   Then 81 more people got on the train.
   The train ended up with 194 people.
   How many people started out on the train?

c. A train started out with some people on it.
   Then 12 people got off the train.
   The train ended up with 100 people.
   How many people started out on the train?

d. A train started out with 90 people.
   Then 40 people got off the train.
   How many people ended up on the train?

Independent Work

Part 2 Copy each problem and work it.

a. 5 x 4 =

b. 4 x 5 =

c. 9 x 6 =

Lesson 102

EXERCISE 1: DATA TABLES
COLUMNS AND ROWS

a. Open your workbook to Lesson 102 and find part 1. ✔
(Teacher reference:)

	A	B	C
☆	8	5	11
△	2	10	6
☽	9	0	7

a. Circle the largest number in the △ row.
b. Circle the smallest number in the ☆ row.
c. Cross out the smallest number in column C.
d. Cross out the largest number in column A.

b. I'll read item A: Circle the largest number in the triangle row.
• What are you going to do with the largest number in the triangle row? (Signal.) *Circle it.*
• Touch the triangle row. ✔
• Read the numbers in the triangle row. (Signal.) *2, 10, 6.*
• Circle the largest number.
(Observe students and give feedback.)
(Display:) [102:1A]

	A	B	C
☆	8	5	11
△	2	⑩	6
☽	9	0	7

Here's what you should have.
• The numbers are 2, 10, and 6. Which number did you circle? (Signal.) *10.*

c. I'll read item B: Circle the smallest number in the star row.
• What are you going to do with the smallest number in the star row? (Signal.) *Circle it.*
• Find the star row and circle the smallest number.
(Observe students and give feedback.)
(Add to show:) [102:1B]

	A	B	C
☆	8	⑤	11
△	2	⑩	6
☽	9	0	7

Here's what you should have.

• The numbers are 8, 5, and 11. Which number did you circle? (Signal.) *5.*
d. I'll read item C: Cross out the smallest number in column C.
• What are you going to do with the smallest number in column C? (Signal.) *Cross it out.*
• Touch column C. ✔
• Say the numbers in column C. (Signal.) *11, 6, 7.*
• Cross out the smallest number.
(Observe students and give feedback.)
(Add to show:) [102:1C]

	A	B	C
☆	8	⑤	11
△	2	⑩	✗
☽	9	0	7

Here's what you should have.
• The numbers are 11, 6, and 7. Which number did you cross out? (Signal.) *6.*
e. I'll read item D: Cross out the largest number in column A.
• What are you going to do with the largest number in column A? (Signal.) *Cross it out.*
• Find column A and cross out the largest number.
(Observe students and give feedback.)
(Add to show:) [102:1D]

	A	B	C
☆	8	⑤	11
△	2	⑩	✗
☽	✗	0	7

Here's what you should have.
• The numbers are 8, 2, and 9. Which number did you cross out? (Signal.) *9.*

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EXERCISE 2: EQUIVALENT UNITS

>, <, =   `REMEDY`

a. You learned that there are 60 seconds in a minute.
• How many seconds are in a minute? (Signal.) *60.*
• Yes, 60 seconds equals 1 minute.
  Say the rule. (Signal.) *60 seconds equals 1 minute.*

b. You learned that there are 100 centimeters in a meter.
• How many centimeters are in a meter? (Signal.) *100.*
  Yes, 100 centimeters equals 1 meter.
• Say the rule. (Signal.) *100 centimeters equals 1 meter.*

c. Say the rule about seconds and minutes. (Signal.) *60 seconds equals 1 minute.*
• Say the rule about centimeters and meters. (Signal.) *100 centimeters equals 1 meter.* (Repeat until firm.)

─── **WORKBOOK PRACTICE** ───

a. Find part 2 in your workbook. ✔
   (Teacher reference:)   `R Part H`

a. 25 seconds ☐ 1 minute	e. 110 centimeters ☐ 1 meter
b. 1 meter ☐ 65 centimeters	f. 1 yard ☐ 3 feet
c. 1 week ☐ 9 days	g. 1 gallon ☐ 3 quarts
d. 12 months ☐ 1 year	h. 95 cents ☐ 1 dollar

You're going to write the missing sign for each item.

b. Item A: 25 seconds, 1 minute.
• Say the rule for seconds and minutes. (Signal.) *60 seconds equals 1 minute.*
• Is 25 seconds more than, less than, or equal to 1 minute? (Signal.) *Less than 1 minute.*

c. Item B: 1 meter, 65 centimeters.
• Say the rule for centimeters and meters. (Signal.) *100 centimeters equals 1 meter.*
• Is 65 centimeters more than, less than, or equal to 1 meter? (Signal.) *Less than 1 meter.*

d. Your turn: Write the missing sign in each item.
• Pencils down when you're finished. (Observe students and give feedback.)

e. Check your work.
   Here's what you should have for each item.
   (Display:)   [102:2A]

a.	25 seconds	< 1 minute
b.	1 meter	> 65 centimeters
c.	1 week	< 9 days
d.	12 months	= 1 year

f. (Point to **A**.) Everybody, read statement A. (Signal.) *25 seconds is less than 1 minute.*
• How many seconds are in a minute? (Signal.) *60.*

g. (Point to **B**.) Read statement B. (Signal.) *1 meter is more than 65 centimeters.*
• How many centimeters are in a meter? (Signal.) *100.*

h. (Point to **C**.) Read statement C. (Signal.) *1 week is less than 9 days.*
• How many days are in a week? (Signal.) *7.*

i. (Point to **D**.) Read statement D. (Signal.) *12 months equals 1 year.*
   (Display:)   [102:2B]

e.	110 centimeters	> 1 meter
f.	1 yard	= 3 feet
g.	1 gallon	> 3 quarts
h.	95 cents	< 1 dollar

j. (Point to **E**.) Read statement E. (Signal.) *110 centimeters is more than 1 meter.*
• How many centimeters are in a meter? (Signal.) *100.*

k. (Point to **F**.) Read statement F. (Signal.) *1 yard equals 3 feet.*

l. (Point to **G**.) Read statement G. (Signal.) *1 gallon is more than 3 quarts.*
• How many quarts are in a gallon? (Signal.) *4.*

m. (Point to **H**.) Read statement H. (Signal.) *95 cents is less than 1 dollar.*
• How many cents are in a dollar? (Signal.) *100.*

EXERCISE 3: MONEY EQUIVALENCE
CENTS/DOLLARS AND CENTS

a. Find part 3 in your workbook. ✔
(Teacher reference:)

| a. 908 cents = | | b. 340 cents = | |
| c. 779 cents = | | d. 215 cents = | |

You're going to write the dollars and cents
number for each cents number.
b. Problem A: Write the dollars and cents
number for 908 cents. ✔
(Display:)   [102:3A]

> a.   908 cents = $9.08

Here's what you should have.
• Problem B: Write the dollars and cents
number for 340 cents. ✔
(Display:)   [102:3B]

> b.   340 cents = $3.40

Here's what you should have.
• Problem C: Write the dollars and cents
number for 779 cents. ✔
(Display:)   [102:3C]

> c.   779 cents = $7.79

Here's what you should have.
• Problem D: Write the dollars and cents
number for 215 cents. ✔
(Display:)   [102:3D]

> d.   215 cents = $2.15

Here's what you should have.

EXERCISE 4: ADDITION FACTS
SMALL NUMBER OF 8

a. (Hand out lined paper.)
• Pencils down. ✔
(Display:)   [102:4A]

> $\overset{8 \quad 3}{\longrightarrow}$ $\overset{8 \quad 4}{\longrightarrow}$12 $\overset{8 \quad 5}{\longrightarrow}$13

b. (Point to $\overset{8 \quad 3}{\longrightarrow}$.) What are the small numbers
in this family? (Signal.) *8 and 3.*
• What's the big number? (Signal.) *11.*
• Say the addition fact that starts with 8. (Signal.)
8 + 3 = 11.
• Say the other addition fact. (Signal.) *3 + 8 = 11.*
c. (Point to $\overset{8 \quad 4}{\longrightarrow}$12 and $\overset{8 \quad 5}{\longrightarrow}$13.) Here are two
new number families.
d. (Point to $\overset{8 \quad 4}{\longrightarrow}$12.) What are the small numbers
in this family? (Signal.) *8 and 4.*
• Say the addition fact that starts with 8. (Signal.)
8 + 4 = 12.
• Say the other addition fact. (Signal.) *4 + 8 = 12.*
(Repeat until firm.)
e. (Point to $\overset{8 \quad 5}{\longrightarrow}$13.) Say the addition fact that
starts with 8. (Signal.) *8 + 5 = 13.*
• Say the other addition fact. (Signal.) *5 + 8 = 13.*
(Repeat until firm.)
f. (Change to show:)   [102:4B]

> $\overset{8 \quad 3}{\longrightarrow}$ $\overset{8 \quad 4}{\longrightarrow}$☐ $\overset{8 \quad 5}{\longrightarrow}$☐

Here are the families without the big numbers.
g. (Point to $\overset{8 \quad 3}{\longrightarrow}$.) Say the addition fact that
starts with 8. (Signal.) *8 + 3 = 11.*
• (Point to $\overset{8 \quad 4}{\longrightarrow}$.) Say the addition fact that
starts with 8. (Signal.) *8 + 4 = 12.*
• (Point to $\overset{8 \quad 5}{\longrightarrow}$.) Say the addition fact that
starts with 8. (Signal.) *8 + 5 = 13.*
(Repeat until firm.)
h. (Point to $\overset{8 \quad 3}{\longrightarrow}$.) What does 3 plus 8 equal?
(Signal.) *11.*
Say the fact. (Signal.) *3 + 8 = 11.*
• (Point to $\overset{8 \quad 4}{\longrightarrow}$.) Say the fact that starts with 4.
(Signal.) *4 + 8 = 12.*
• (Point to $\overset{8 \quad 5}{\longrightarrow}$.) Say the fact that starts with 5.
(Signal.) *5 + 8 = 13.*
(Repeat until firm.)

i. (Display:) [102:4C]

$$8 + 4$$
$$8 + 5$$
$$8 + 3$$
$$5 + 8$$
$$4 + 8$$
$$3 + 8$$

Here are problems that have a small number of 8.
- (Point to **8 + 4**.) Read the problem. (Signal.) *8 + 4.*
  What's the answer? (Signal.) *12.*
- (Point to **8 + 5**.) Read the problem. (Signal.) *8 + 5.*
  What's the answer? (Signal.) *13.*
- (Point to **8 + 3**.) Read the problem. (Signal.) *8 + 3.*
  What's the answer? (Signal.) *11.*
- (Point to **5 + 8**.) Read the problem. (Signal.) *5 + 8.*
  What's the answer? (Signal.) *13.*
- (Point to **4 + 8**.) Read the problem. (Signal.) *4 + 8.*
  What's the answer? (Signal.) *12.*
- (Point to **3 + 8**.) Read the problem. (Signal.) *3 + 8.*
  What's the answer? (Signal.) *11.*
  (Repeat until firm.)

j. (Change to show:) [102:4D]

a. $5 + 8$
b. $8 + 4$
c. $3 + 8$
d. $8 + 5$
e. $8 + 3$
f. $4 + 8$

Here are the problems in a different order.
k. Write A through F on your lined paper. ✔
- Now write the answer to each problem.
  (Observe students and give feedback.)
l. Check your work.
- Problem A: What's 5 plus 8? (Signal.) *13.*
  Say the fact for 5 plus 8. (Signal.) *5 + 8 = 13.*

- Problem B: What's 8 plus 4? (Signal.) *12.*
  Say the fact for 8 plus 4. (Signal.) *8 + 4 = 12.*
- Problem C: What's 3 plus 8? (Signal.) *11.*
  Say the fact for 3 plus 8. (Signal.) *3 + 8 = 11.*
- Problem D: What's 8 plus 5? (Signal.) *13.*
  Say the fact for 8 plus 5. (Signal.) *8 + 5 = 13.*
- Problem E: What's 8 plus 3? (Signal.) *11.*
  Say the fact for 8 plus 3. (Signal.) *8 + 3 = 11.*
- Problem F: What's 4 plus 8? (Signal.) *12.*
  Say the fact for 4 plus 8. (Signal.) *4 + 8 = 12.*

m. (Display:) [102:4E]

$$\underset{\longrightarrow}{8 \quad 4} \qquad \underset{\longrightarrow}{8 \quad 5}$$

Remember the two new families.
- (Point to $\underset{\longrightarrow}{8 \ 4}$.) What are the small numbers in this family? (Signal.) *8 and 4.*
  What's the big number? (Signal.) *12.*
- (Point to $\underset{\longrightarrow}{8 \ 5}$.) What are the small numbers in this family? (Signal.) *8 and 5.*
  What's the big number? (Signal.) *13.*

EXERCISE 5: MONEY WORD PROBLEMS
TOTAL PURCHASE

a. (Hand out textbooks.)
- Open your textbook to Lesson 102 and find part 1. ✔
  (Teacher reference:)

$31.60 $44.25 $12.95 $10.00

a. You want to buy the boots and the gloves. How much money do you need?
b. You want to buy the coat and the shirt. How much money do you need?
c. You want to buy the boots, the shirt, and the gloves. How much money do you need?

The pictures show price tags for items in a store.
- Touch the boots. ✔
  What's the price of the boots? (Signal.) *$31.60.*
- Touch the coat. ✔
  What's the price of the coat? (Signal.) *$44.25.*
- Touch the shirt. ✔
  What's the price of the shirt? (Signal.) *$12.95.*
- Touch the gloves. ✔
  What's the price of the gloves? (Signal.) *$10.00.*
  (Repeat until firm.)
b. Listen: Raise your hand when you know how much money you need to buy the shirt. ✔
- How much money would you need? (Signal.) *$12.95.*

c. Raise your hand when you know how much you would need to buy the boots. ✔
• How much money would you need? (Signal.) *$31.60.*
d. Raise your hand when you know how much money you would need to buy the coat. ✔
• How much money would you need? (Signal.) *$44.25.*
e. Raise your hand when you know how much money you would need to buy the gloves. ✔
• How much money would you need? (Signal.) *$10.00.*
f. I'll read problem A: You want to buy the boots and the gloves. How much money do you need?
• You're going to figure out how much money you need to buy the boots and the gloves. Work problem A.
(Observe students and give feedback.)
g. Check your work.
(Display:)   [102:5A]

> **a.** $\begin{array}{r} \$31.60 \\ +10.00 \\ \hline \$41.60 \end{array}$

Here's what you should have.
$31.60 + $10.00 = $41.60. So you would need $41.60 to buy the boots and the gloves.
h. I'll read problem B: You want to buy the coat and the shirt. How much money do you need?
• You're going to figure out how much money you need to buy the coat and the shirt. Work problem B.
(Observe students and give feedback.)
i. Check your work.
(Display:)   [102:5B]

> **b.** $\begin{array}{r} \$44.25 \\ +12.95 \\ \hline \$57.20 \end{array}$

Here's what you should have.
$44.25 + $12.95 = $57.20. So you would need $57.20 to buy the coat and the shirt.
j. I'll read problem C: You want to buy the boots, the shirt, and the gloves. How much money do you need?
• You're going to figure out how much money you need to buy the boots, the shirt, and the gloves. Work problem C.
(Observe students and give feedback.)

k. Check your work.
(Display:)   [102:5C]

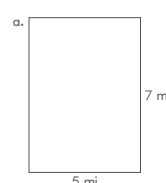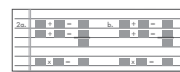> **b.** $\begin{array}{r} \$31.60 \\ 12.95 \\ +10.00 \\ \hline \$54.55 \end{array}$

Here's what you should have.
$31.60 + $12.95 + $10.00 = $54.55. So you would need $54.55 to buy the boots, the shirt, and the gloves.

EXERCISE 6: AREA AND PERIMETER
OF RECTANGLES   `REMEDY`

a. Find part 2 in your textbook. ✔
(Teacher reference:)

You're going to find the area and the perimeter of each rectangle.
b. Remember, when you find the **area,** the answer has **square** units. When you find the **perimeter,** the answer does **not** have square units.
c. Touch rectangle A. ✔
• Listen: When you work the problem for the **perimeter,** what's the unit name in the answer? (Signal.) *Miles.*
• When you find the **area,** what's the unit name in the answer? (Signal.) *Square miles.*
(Repeat until firm.)
d. Find the perimeter of rectangle A. Then stop.
(Observe students and give feedback.)
• Everybody, read the equation for the top and bottom sides. (Signal.) *5 + 5 = 10.*
• Read the equation for the up-and-down sides. (Signal.) *7 + 7 = 14.*
• What's the perimeter? (Signal.) *24 miles.* Yes, 24 miles.

e. Find the area of rectangle A.
(Observe students and give feedback.)
• You worked the problem 5 times 7. What's the area? (Signal.) *35 square miles.*
Yes, 35 **square** miles.
f. Touch rectangle B. ✔
• Listen: When you work the problem for the perimeter, what's the unit name in the answer? (Signal.) *Feet.*
• When you find the area, what's the unit name in the answer? (Signal.) *Square feet.*
(Repeat until firm.)
g. Find the perimeter of rectangle B. Then stop.
(Observe students and give feedback.)
• Everybody, read the equation for the top and bottom sides. (Signal.) *4 + 4 = 8.*
• Read the equation for the up-and-down sides. (Signal.) *9 + 9 = 18.*
• What's the perimeter? (Signal.) *26 feet.*
Yes, 26 feet.
h. Find the area of rectangle B.
(Observe students and give feedback.)
• You worked the problem 4 times 9. What's the area? (Signal.) *36 square feet.*
Yes, 36 square feet.

EXERCISE 7: INDEPENDENT WORK
MULTIPLICATION

a. Find part 3 in your textbook. ✔
(Teacher reference:)

a. $5 \times \blacksquare = 15$ d. $2 \times 8 = \blacksquare$
b. $10 \times \blacksquare = 40$ e. $2 \times \blacksquare = 12$
c. $9 \times 6 = \blacksquare$ f. $4 \times 5 = \blacksquare$

My turn to read problems A and B.
• Problem A: 5 times what number equals 15.
• Problem B: 10 times what number equals 40.
b. Your turn: Read problem A. (Signal.) *5 x what number = 15.*
• Read problem B. (Signal.) *10 x what number = 40.*
• Read problem C. (Signal.) *9 x 6 = what number.*
c. You'll copy all the problems and work them when you do your independent work.

Assign Independent Work, Textbook parts 3–7 and Workbook parts 4–6.

Lesson 102

Name _____

Part 1

	A	B	C
☆	8	5	11
△	2	10	6
☽	9	0	7

a. Circle the largest number in the △ row.

b. Circle the smallest number in the ☆ row.

c. Cross out the smallest number in column C.

d. Cross out the largest number in column A.

Part 2

a. 25 seconds ☐ 1 minute

b. 1 meter ☐ 65 centimeters

c. 1 week ☐ 9 days

d. 12 months ☐ 1 year

e. 110 centimeters ☐ 1 meter

f. 1 yard ☐ 3 feet

g. 1 gallon ☐ 3 quarts

h. 95 cents ☐ 1 dollar

Part 3

a. 908 cents = ☐

b. 340 cents = ☐

c. 779 cents = ☐

d. 215 cents = ☐

Independent Work

Part 4 Write the statement without the middle value.

a. B > T
   R > B

   _____

b. J < T
   T < K

   _____

Lesson 102

Name _____

Part 5 Work each estimation problem.

a.
```
  4 1
+ 7 7
```

b.
```
  6 6
− 2 1
```

Part 6

a.
```
  8
− 5
```
b.
```
  11
−  9
```
c.
```
  10
−  6
```
d.
```
  9
− 4
```
e.
```
  12
−  7
```
f.
```
  11
−  8
```
g.
```
  3
+ 9
```

h.
```
  8
+ 3
```
i.
```
  7
+ 4
```
j.
```
  4
+ 9
```
k.
```
  6
+ 5
```
l.
```
  7
+ 9
```
m.
```
  7
+ 7
```

n.
```
  9
+ 5
```
o.
```
  9
+ 9
```
p.
```
  11
−  3
```
q.
```
  11
−  2
```
r.
```
  5
+ 5
```
s.
```
  11
−  4
```

Lesson 102

Part 1

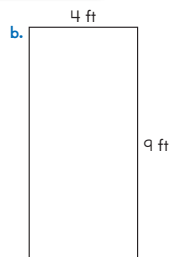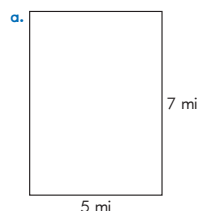|			
$31.60	$44.25	$12.95	$10.00

a. You want to buy the boots and the gloves. How much money do you need?

b. You want to buy the coat and the shirt. How much money do you need?

c. You want to buy the boots, the shirt, and the gloves. How much money do you need?

Part 2

a.

7 mi

5 mi

b.

4 ft

9 ft

Lesson 102

Independent Work

Part 3 Copy and work each problem.

a. $5 \times \blacksquare = 15$

b. $10 \times \blacksquare = 40$

c. $9 \times 6 = \blacksquare$

d. $2 \times 8 = \blacksquare$

e. $2 \times \blacksquare = 12$

f. $4 \times 5 = \blacksquare$

Part 4 Find the perimeter of each figure.

a. 10 ft, 6 ft

b. 10 in., 10 in., 14 in.
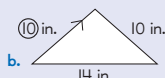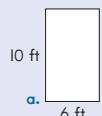
Part 5 Copy each problem and figure out the answer.

a. $\begin{array}{r} 734 \\ -444 \end{array}$

b. $\begin{array}{r} 524 \\ -272 \end{array}$

c. $\begin{array}{r} 458 \\ +534 \end{array}$

Part 6 Work the column problem for each item.

a. $\blacksquare + 47 = 74$

b. $6 + \blacksquare = 11$

c. $35 + \blacksquare = 140$

d. $29 - \blacksquare = 12$

Part 7 Work each problem.

a. There were 50 dogs in the park. 12 dogs were walking. The rest were running. How many dogs were running?

b. Mary read 7 books in May and 13 books in June. How many books did she read altogether?

c. There were 120 birds near the lake. 19 of them were red. The others were white. How many birds were white?