

EXERCISE 1

Facts: Introducing Five Facts in Series

a. (Write on the board:)

$$7 \times 6 = 42$$

$$7 \times 7 = 49$$

$$7 \times 8 = 56$$

$$7 \times 9 = 63$$

$$7 \times 10 = 70$$

- b. These are facts that start with 7. Let's read the facts together, starting with 7 times 6. **Get ready.** (Read the facts with the students. Signal.) *7 times 6 equals 42; 7 times 7 equals 49; 7 times 8 equals 56; 7 times 9 equals 63; 7 times 10 equals 70.*
- (Repeat step b until firm.)
- c. (Erase the board.) **Now say the facts without looking at them. Start with 7 times 6. Get ready.**
- (Hold up six fingers. Signal.) *7 times 6 equals 42.*
 - (Hold up seven fingers. Signal.) *7 times 7 equals 49.*
 - (Hold up eight fingers. Signal.) *7 times 8 equals 56.*
 - (Hold up nine fingers. Signal.) *7 times 9 equals 63.*
 - (Hold up ten fingers. Signal.) *7 times 10 equals 70.*
 - (Repeat step c until firm.)
- d. (Call on individual students. Each student is to say the five facts in order.)
- e. **Open your workbook to Lesson 42. Find Part 1.**

- f. Touch the first problem. Read the problem and say the answer.
(Signal.) *7 times 9 equals 63.*
- Touch the next problem. Read the problem and say the answer.
(Signal.) *7 times 7 equals 49.*
 - Touch the next problem. Read the problem and say the answer.
(Signal.) *7 times 8 equals 56.*
 - Touch the next problem. Read the problem and say the answer.
(Signal.) *7 times 6 equals 42.*
 - Touch the next problem. Read the problem and say the answer.
(Signal.) *7 times 7 equals 49.*
 - Touch the next problem. Read the problem and say the answer.
(Signal.) *7 times 9 equals 63.*
 - Touch the next problem. Read the problem and say the answer.
(Signal.) *7 times 8 equals 56.*
 - Touch the next problem. Read the problem and say the answer.
(Signal.) *7 times 6 equals 42.*
- g. (Repeat step f until firm.)
- h. **Write the answers to all the problems in Part 1. Get ready. Go.**
- (Check and correct. See *Answer Key*.)
- i. (Review answers orally with the entire group. See *Answer Key*.)

EXERCISE 2

Place Value: Practice Putting in Commas

- a. Find Part 2 on your worksheet.
- b. When you have a number with more than four digits, where do you write a comma?
(Signal.) *Between the hundreds column and the thousands column.*
- c. In Part 2, write a comma in each number that has more than four digits.
- (Check and correct. See *Answer Key*.)

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- d. Touch item A. (Pause.) Did you write a comma? (Signal.) Yes.
- How many thousands are there? (Signal.) 42.
 - Read item A. (Signal.) *Forty-two thousand thirty-eight.*
- e. Touch item B. (Pause.) Did you write a comma? (Signal.) No.
- How many thousands are there? (Signal.) 7.
 - Read item B. (Signal.) *Seven thousand one hundred forty-nine.*
- f. Touch item C. (Pause.) Did you write a comma? (Signal.) Yes.
- How many thousands are there? (Signal.) 30.
 - Read item C. (Signal.) *Thirty thousand eight hundred twenty.*
- g. Touch item D. (Pause.) Did you write a comma? (Signal.) Yes.
- How many thousands are there? (Signal.) 41.
 - Read item D. (Signal.) *Forty-one thousand three hundred fifty-two.*
- h. Touch item E. (Pause.) Did you write a comma? (Signal.) No.
- How many thousands are there? (Signal.) 7.
 - Read item E. (Signal.) *Seven thousand nine hundred four.*
- e. Touch the 5. If you're multiplying the 5, you carry to the box in front of the 5. Touch that box. ✓
- What number is below that box? (Signal.) 3.
- f. Touch the 3. Now touch the box you'd carry to when you multiply the 3. What number is below that box? (Signal.) 8.
- g. Touch the 2 again. Now touch the box you'd carry to when you multiply the 2. What number is below that box? (Signal.) 5.
- h. Touch the 5. Now touch the box you'd carry to when you multiply the 5. What number is below that box? (Signal.) 3.
- i. Touch the 3. Now touch the box you'd carry to when you multiply the 3. What number is below that box? (Signal.) 8.

New Problem

- a. Look at problem B. Touch the 9. If you're multiplying the 9, you carry to the box in front of the 9. That's the box above the 2. Touch that box.
- b. Touch the 2. If you're multiplying the 2, you carry to the box in front of the 2. Touch that box.
- What number is below that box? (Signal.) 8.
- c. Touch the 8. Now touch the box you'd carry to when you multiply the 8. What number is below that box? (Signal.) 4.
- d. Touch the 9. Now touch the box you'd carry to when you multiply the 9. What number is below that box? (Signal.) 2.
- e. Touch the 2 again. Now touch the box you'd carry to when you multiply the 2. What number is below that box? (Signal.) 8.
- f. Touch the 8. Now touch the box you'd carry to when you multiply the 8. What number is below that box? (Signal.) 4.

► EXERCISE 3

Operations: Which Box to Carry to

- a. In the next lesson you're going to work problems that have more than two digits on top. You need to learn a new rule for carrying numbers to work these problems.
- b. Find Part 3 on your worksheet.
- c. Here's a rule for carrying numbers. The number you carry always goes in the box in front of the top number.
- d. Look at problem A. Touch the 2. If you're multiplying the 2, you carry to the box in front of the 2. That's the box above the 5. Touch that box. ✓

► EXERCISE 4

Facts: Practicing Carrying and Noncarrying Addition Preskills

- a. I'm going to read some problems. You tell me the answers.
- b. 30 (Pause.) 6 plus 3. Listen again. 36 plus 3. What's the answer? (Signal.) 39.

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- c. 30 (Pause.) 6 plus 5. Listen again. 36 plus 5. What's the answer? (Signal.) 41.
- d. 50 (Pause.) 4 plus 6. Listen again. 54 plus 6. What's the answer? (Signal.) 60.
- e. 20 (Pause.) 8 plus 2. Listen again. 28 plus 2. What's the answer? (Signal.) 30.
- f. 40 (Pause.) 5 plus 3. Listen again. 45 plus 3. What's the answer? (Signal.) 48.
- g. 40 (Pause.) 8 plus 3. Listen again. 48 plus 3. What's the answer? (Signal.) 51.
- h. Find Part 4 on your worksheet. Now you're going to write the answers to the problems we just did. Don't write the problem, just the answer.
- i. Problem A. 30 (Pause.) 6 plus 3. Listen again. 36 plus 3. Write the answer.
- j. Problem B. 50 (Pause.) 4 plus 6. Listen again. 54 plus 6. Write the answer.
- k. Problem C. 20 (Pause.) 8 plus 2. Listen again. 28 plus 2. Write the answer.
- l. Problem D. 40 (Pause.) 5 plus 3. Listen again. 45 plus 3. Write the answer.
- m. Problem E. 40 (Pause.) 8 plus 3. Listen again. 48 plus 3. Write the answer.
- n. Problem F. 30 (Pause.) 6 plus 5. Listen again. 36 plus 5. Write the answer.
- o. Let's check your work. I'll read the problems again. You say the answers you wrote.
- p. Problem A. 36 plus 3. Everybody, what's the answer? (Signal.) 39.
- q. (Repeat step p for the rest of the problems in Part 4. See *Answer Key*.)

EXERCISE 5

Timing Format

- a. Find Part 5 on your worksheet.
- b. You're going to say the answers to some facts. Touch the first problem and get ready to tell me the answer. (Pause.) What's the answer? (Signal.) 24.
- c. Next problem. (Pause.) What's the answer? (Signal.) 35.
- d. (Repeat step c until firm for the rest of the problems in the first row. See *Answer Key*.)
- e. Let's see how fast you can work these problems. You have one and a half minutes. Get ready. Go.
- f. (After one and a half minutes say:) Stop. Put an **X** next to each problem you didn't get to.
- g. Let's check your work. You're going to read each problem and say the answer. If you have the wrong answer, put an **X** next to the problem.
- h. First problem. (Signal.) *8 times 3 equals 24.*
- i. Next problem. (Signal.) *7 times 5 equals 35.*
- j. (Repeat step i for the rest of the problems in Part 5. See *Answer Key*.)

EXERCISE 6

Facts: Practicing Commutative Property

- a. Find Part 6 on your worksheet.
- b. You're going to write two multiplication facts for each number family.
- c. Touch number family A. What's the big number for that family? (Signal.) 24.
 - Write it in the box. ✓
- d. Say the multiplication fact that begins with 6. (Signal.) *6 times 4 equals 24.*
- e. Say the multiplication fact that begins with 4. (Signal.) *4 times 6 equals 24.*
- f. Write both facts below number family A. ✓
- g. Do the rest of the problems in Part 6 on your own. Fill in the big number for each family. Then write the two facts.
 - (Check and correct. See *Answer Key*.)
- h. Let's check your work. Put an **X** next to each fact you got wrong.
- i. What's the big number for number family B? (Signal.) 12.
 - Say the multiplication fact that begins with 6. (Signal.) *6 times 2 equals 12.*
 - Say the multiplication fact that begins with 2. (Signal.) *2 times 6 equals 12.*
- j. What's the big number for number family C? (Signal.) 30.
 - Say the multiplication fact that begins with 6. (Signal.) *6 times 5 equals 30.*
 - Say the multiplication fact that begins with 5. (Signal.) *5 times 6 equals 30.*

- k. What's the big number for number family D? (Signal.) 6.
 - Say the multiplication fact that begins with 6. (Signal.) *6 times 1 equals 6.*
 - Say the multiplication fact that begins with 1. (Signal.) *1 times 6 equals 6.*
- l. What's the big number for number family E? (Signal.) 18.
 - Say the multiplication fact that begins with 6. (Signal.) *6 times 3 equals 18.*
 - Say the multiplication fact that begins with 3. (Signal.) *3 times 6 equals 18.*

► EXERCISE 7

Story Problems: Introducing Subtraction Problems

- a. Multiplication has number families. Addition and subtraction have number families too. Addition and subtraction number families have a big number and two small numbers. The big number is the number you end up with when you add the two small numbers. Today we're going to work addition, subtraction, and multiplication problems.
 - b. You already know how to tell whether a problem is a multiplication problem. Most multiplication problems use the word **each** or **every**. If a problem doesn't use the word **each** or **every**, it's probably an addition or subtraction problem.
 - c. Here are rules about addition and subtraction problems. If the big number is not given, it's an addition problem. If the big number is given, it's a subtraction problem.
 - d. Remember, when you add, you add only the two small numbers. When you subtract, you start with the big number and take away one of the small numbers.
 - e. What kind of problem is it if the word **each** or **every** is used? (Signal.) *Multiplication.*
 - f. Listen. I'll tell you about a problem. **Each** or **every** is not used in the problem and the big number is not given. What kind of problem is it? (Signal.) *Addition.*
- **To Correct**
If the big number is not given, it's an addition problem. ◀
- g. Listen. I'll tell you about another problem. **Each** or **every** is not used and the big number is given. What kind of problem is it? (Signal.) *Subtraction.*
- **To Correct**
If the big number is given, it's a subtraction problem. ◀
- h. (Repeat steps e–g until firm.)
 - i. Find Part 7 on your worksheet.
 - I'll read story A. Katie Tallchief likes to take photographs of her classmates. She took 57 photographs. She gave 24 away. How many photographs did Katie have left?
 - j. Is the word **each** or **every** used? (Signal.) *No.*
 - So it's not a multiplication problem. It's either an addition or subtraction problem.
 - k. Does the story give the big number? (Signal.) *Yes.*
 - So what kind of problem is it? (Signal.) *Subtraction.*
 - l. Start with 57 and say the problem. (Signal.) *57 minus 24 equals how many?*
- **To Correct**
The subtraction problem is 57 minus 24 equals how many? ◀
- m. Write the problem and figure the answer. ✓
 - n. I'll read story B. Mr. Singh buys 14 crates of lettuce for his restaurant each week. How many crates does he buy in 3 weeks?
 - o. Is the word **each** or **every** used? (Signal.) *Yes.*
 - So what kind of problem is it? (Signal.) *Multiplication.*
 - p. Start with 14 and say the problem. (Signal.) *14 times 3.*
 - q. Write the problem and figure the answer. ✓
 - r. Work the rest of the problems in Part 7 on your own. Write each problem and figure the answer.

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- s. Let's check your work. Put an **X** next to any problems you got wrong.
- t. Problem A. What's the answer?
(Signal.) *33 photographs.*
- u. Problem B. What's the answer?
(Signal.) *42 crates.*
- v. I'll read story C. A flower shop near a train station sold 14 bunches of daisies on Monday and 5 bunches on Tuesday. How many bunches did it sell in all?
 - Read the problem and say the answer.
(Signal.) *14 plus 5 equals 19 bunches.*
- w. I'll read story D. In an art class, 22 students are working with clay and 5 are painting pictures. How many students in all are there in the art class?
 - Read the problem and say the answer.
(Signal.) *22 plus 5 equals 27 students.*
- x. I'll read story E. Mrs. Arcano bought 14 pieces of wood to repair her porch. She needs 38 pieces of wood. How many more pieces does Mrs. Arcano need?
 - Read the problem and say the answer.
(Signal.) *38 minus 14 equals 24 pieces.*

EXERCISE 8

Preparation for Mastery Test: Facts

- a. When we do the next lesson, you're going to have a test on multiplication facts. Let's go over some facts together.
- b. I'll say the problems and you give the answers. What does 4 times 5 equal? Get ready. (Signal.) *20.*
- c. (Repeat step b for the following problems:
 4×6 , 4×7 , 4×8 , 4×9 , 4×5 , 6×1 ,
 6×2 , 6×3 , 6×4 , 6×5)
- d. Remember those facts for the test.

EXERCISE 9

Independent Work

Do Part 8. (The students can work this part without supervision.)

EXERCISE 10

Workcheck

- a. Now we're going to figure out the number of points you earned for this lesson.
- b. Count the number of facts you got wrong in Parts 5 and 6.
- c. Find the beginning of your worksheet for Lesson 42.
- d. If you got 0 or 1 wrong, you get 3 points. If you got 2 wrong, you get 1 point. If you got more than 2 wrong, you get 0 points.
- e. Write the number of points you earned in the box labeled "Facts."
- f. Now we'll check all of the problems in Part 8.
- g. Put an **X** next to each problem you got wrong.
- h. (Read the answers from the *Answer Key* for Lesson 42, Part 8.)
 - i. Now count the number of problems you got wrong in Parts 7 and 8.
 - j. Once again find the beginning of your worksheet for Lesson 42. You are going to write the number of points you earned in the box labeled "Problems."
- k. If you got 0 or 1 wrong, you get 5 points. If you got 2 or 3 wrong, you get 3 points. If you got more than 3 wrong, you get 0 points.
 - l. Write the number of points you earned in the box labeled "Problems."
- m. (If Fact Game bonus points are to be added to the "Bonus" box in this lesson, do not do steps n and o.)
- n. Add up all of the points in the boxes and put the answer in the box labeled "Total." This is the number of points you earned for this lesson.
- o. Turn to the Point Summary Charts on the inside back cover of your workbook. Find the empty box below Lesson 42. Write the total number of points you earned in that box.

EXERCISE 11

Fact Game

- a. (When you're ready to begin playing, divide the class into groups. Depending on the size of your class, there will be four or fewer students in each group plus a student who will be a judge. For each group you will need one die or spinner numbered from 1 through 6, a score sheet, and a pencil. Write the answers to the facts shown in step b on a blank sheet of paper. This paper will also serve as the group's score sheet.)
- b. (Write the following facts on the board:)

1. 4	2. 4	3. 4	4. 4	5. 7	6. 7
× 6	× 7	× 8	× 9	× 3	× 4

- c. (Give each team a die or spinner and give each judge a pencil and a sheet of paper with the answers to the facts.)
- d. We're going to play a game called the Fact Game. You can earn up to 2 bonus points each day we play.
- e. These are the rules of the game. All of the teams play the game at the same time. Each team starts by having one player roll the die or spin the spinner. The number that comes up tells which problem on the board that player must give the answer for. For example, if a 4 comes up on the spinner or die, you read problem 4, 10 times 5, and then give the answer. What do you do if a 2 comes up? (Signal.) *Read problem 2 and give the answer.*
- f. If the answer is correct, the judge draws 1 line on the sheet of paper.
- g. If the answer is incorrect, the judge crosses out 2 lines. (Be aware that when the first turn is taken, there will be no lines to cross out.)
- h. How many lines does a judge draw for the correct answer? (Signal.) 1.
- How many lines does a judge cross out for the wrong answer? (Signal.) 2.
- i. The players take turns answering the problems until I say "Stop." You will play for five minutes.
- j. After I say "Stop," the judge will count up the team's lines.
- k. (Pick a team and model the game for the rest of the students.) I'll play the game with this team. Everybody else should watch how we play.
- l. (After you finish demonstrating the game, say:) When I signal, start playing. I'll tell you to stop at the end of five minutes. If you have any questions, raise your hand. (Signal.)
- m. (Check each group during the game.)
- n. (After five minutes are up, say:) Stop playing.
- o. Judges, count the number of lines your team got and write the total at the top of your sheet of paper.
- p. If your team got 30, 31, 32, 33, 34, 35, 36, 37, 38, or 39 lines, you get 1 point. If your team has 40 or more lines, you get 2 points. All judges get 2 points.
- q. Write your points in the "Bonus" box at the beginning of your lesson for today. (Be aware that you might have already awarded some bonus points earlier in the lesson either for appropriate group behavior or for very good worksheet performance.)
- r. (You might want to write numbers in the boxes on the board and demonstrate this next step.) Add up all of the points in the boxes and put the answer in the box labeled "Total." This is the number of points you earned for this lesson.
- s. Turn to the Point Summary Charts on the inside back cover of your workbook. ✓ Find the empty box below Lesson 42. Write the total number of points you earned in that box. ✓

Lesson 42

Points + Problems + Bonus = TOTAL

1

$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$
$\begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 10 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$

2

A 42038 B 7149 C 30820 D 41352 E 7904

3

A $\begin{array}{r} 8352 \\ \times 79 \\ \hline \end{array}$ B $\begin{array}{r} 4829 \\ \times 35 \\ \hline \end{array}$

4

A _____ B _____ C _____ D _____ E _____ F _____

5

$\begin{array}{r} 8 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$
$\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 0 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 4 \\ \hline \end{array}$
$\begin{array}{r} 7 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 0 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$				

Lesson 42 (continued)

6

A $\begin{array}{r} 4 \overbrace{) 6} \\ \hline \end{array}$ B $\begin{array}{r} 2 \overbrace{) 6} \\ \hline \end{array}$ C $\begin{array}{r} 5 \overbrace{) 6} \\ \hline \end{array}$

D $\begin{array}{r} 1 \overbrace{) 6} \\ \hline \end{array}$ E $\begin{array}{r} 3 \overbrace{) 6} \\ \hline \end{array}$

- 7
- A Katie Tallchief likes to take photographs of her classmates. She took 57 photographs. She gave 24 away. How many photographs did Katie have left?

- B Mr. Singh buys 14 crates of lettuce for his restaurant each week. How many crates does he buy in 3 weeks?

- C A flower shop near a train station sold 14 bunches of daisies on Monday and 5 bunches on Tuesday. How many bunches did it sell in all?

Lesson 42 (continued)

- D In an art class, 22 students are working with clay and 5 are painting pictures. How many students in all are there in the art class?

- E Mrs. Arcano bought 14 pieces of wood to repair her porch. She needs 38 pieces of wood. How many more pieces does Mrs. Arcano need?

B

A $\begin{array}{r} 41 \\ \times 95 \\ \hline \end{array}$ B $\begin{array}{r} 74 \\ \times 35 \\ \hline \end{array}$ C $\begin{array}{r} 45 \\ \times 9 \\ \hline \end{array}$ D $\begin{array}{r} 12 \\ \times 97 \\ \hline \end{array}$

E $\begin{array}{r} 33 \\ \times 24 \\ \hline \end{array}$ F $\begin{array}{r} 76 \\ \times 45 \\ \hline \end{array}$ G $\begin{array}{r} 44 \\ \times 57 \\ \hline \end{array}$ H $\begin{array}{r} 93 \\ \times 5 \\ \hline \end{array}$

I $\begin{array}{r} 410 \\ \times 7 \\ \hline \end{array}$ J $\begin{array}{r} 304 \\ \times 9 \\ \hline \end{array}$ K $\begin{array}{r} 315 \\ \times 7 \\ \hline \end{array}$ L $\begin{array}{r} 304 \\ \times 5 \\ \hline \end{array}$