



# i-Ready® Classroom Mathematics

## Build Fluency on a Foundation of Understanding

### High-Quality Practice Opportunities

Research<sup>1</sup> says students need to build conceptual understanding before they are ready for procedural practice. *i-Ready Classroom Mathematics* provides tasks and practice problems that solidify students' conceptual understanding before providing computational practice used to develop fluency.

The following Student Worktext and Teacher's Guide pages contain samples of practice items from *i-Ready Classroom Mathematics*:

Comprehensive overview of practice opportunities, including **digital practice** options that provide immediate and meaningful feedback while reinforcing understanding ..... 2

**Additional Practice** highlights students' work on vocabulary and conceptual understanding prior to computational practice..... 3

**Fluency and Skills Practice** uses patterns and repeated reasoning to develop fluency and build skills..... 7

**Refine Session(s)** provide dedicated class time for practice that combines conceptual understanding, fluency, and application items ..... 9

**Cumulative Practice** lets students revisit previously learned content to deepen their understanding and retention ..... 17

For information on how *i-Ready Classroom Mathematics* embeds math practice to enhance the learning progression, see the [What Does Good Math Practice Look Like?](#) guide.

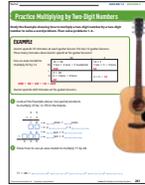
<sup>1</sup>[NCTM.org/Standards-and-Positions/Position-Statements/Procedural-Fluency-in-Mathematics](https://www.nctm.org/Standards-and-Positions/Position-Statements/Procedural-Fluency-in-Mathematics)

# i-Ready Classroom Mathematics Practice Opportunities

## Lesson-Level Practice



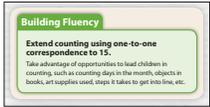
Connect It and Apply It Problems  
*(Student Worktext)*



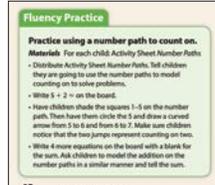
Additional Practice  
*(Student Worktext)*



Refine Sessions  
*(Student Worktext)*



Building Fluency:  
Grade K  
*(Teacher's Guide)*



Fluency Practice:  
Grades K–1  
*(Teacher's Guide)*



Develop Fluency Activities  
*(Teacher's Guide)*



Fluency and Skills Practice  
*(Teacher Toolbox)*

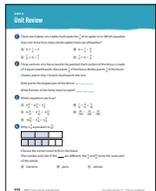


Leveled Math Center Activities  
*(Teacher Toolbox)*



Assignable Interactive Practice  
*(Digital)*

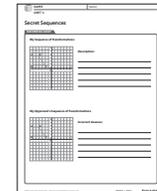
## Unit-Level Practice



Unit Review  
*(Student Worktext)*



Cumulative Practice  
*(Student Worktext)*

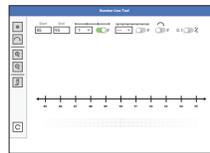


Unit Games  
*(Teacher Toolbox)*

## Ongoing Practice



Grade Level Games:  
Grades K–2  
*(Teacher Toolbox)*



Digital Math Tools  
*(Digital)*



Learning Games  
*(Digital)*

Name: \_\_\_\_\_

# Practice Solving Problems About Equal Groups

Study the Example that shows how a drawing can help you understand problems about equal groups. Then solve problems 1–8.

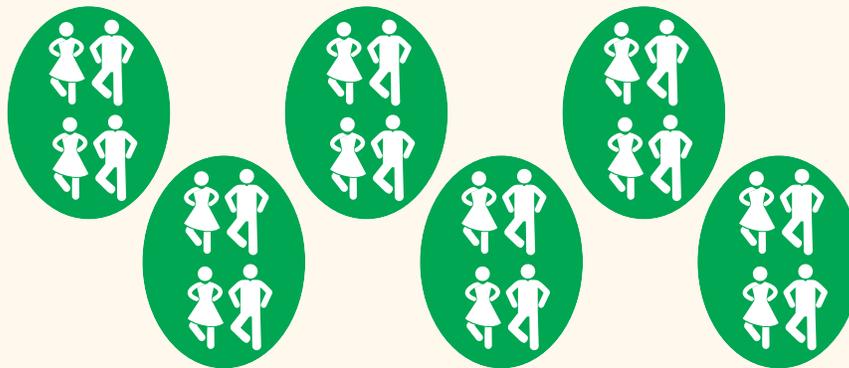
## EXAMPLE

24 students sign up for an Irish folk dancing class.

There are 4 students in each group. How many groups are there?

Draw a picture.

24 students  
4 in each group  
 $n$  groups



Write an equation.

$$24 \div 4 = n$$

$$n = 6$$

There are 6 groups of students.

**18 students take hula dance classes. There are 6 students in each class. How many classes are there?**

- 1 Make a drawing for this problem. Use ☺ for each student. Make groups to show the classes.
- 2 Complete the multiplication and division equations for this problem. Write the value of  $n$ .  
 $18 \div \dots = n$      $n \times \dots = 18$      $n = \dots$
- 3 How many hula dance classes are there? .....

**There are 2 classes for Mexican folk dance. There are 8 students in each class. How many students take Mexican folk dance class?**

- 4 What is the unknown that you need to find out?
- 5 Write an equation for the problem. Use  $n$  to stand for the number you need to find out. Solve the problem.

**Equation** .....

..... students take Mexican folk dance class.

**15 students take modern dance lessons. There are 3 students in each group. How many groups of students are there?**

- 6 Write an equation for the problem. Then solve.

**Equation** .....

There are ..... groups of students.

- 7 If 15 more students sign up for modern dance, how many groups would there be?

**Equation** .....

There would be ..... groups of students.

- 8 How can you use the answer to problem 6 to find the answer to problem 7?

## Practice Solving Problems About Equal Groups

Study the Example that shows how a drawing can help you understand problems about equal groups. Then solve problems 1–8.

## EXAMPLE

24 students sign up for an Irish folk dancing class.

There are 4 students in each group. How many groups are there?

Draw a picture.

24 students  
4 in each group  
 $n$  groups



Write an equation.

$$24 \div 4 = n$$

$$n = 6$$

There are 6 groups of students.

18 students take hula dance classes. There are 6 students in each class. How many classes are there?

- 1 Make a drawing for this problem. Use ☺ for each student. Make groups to show the classes.



- 2 Complete the multiplication and division equations for this problem. Write the value of  $n$ .

$$18 \div \underline{6} = n \quad n \times \underline{6} = 18 \quad n = \underline{3}$$

- 3 How many hula dance classes are there? 3

Fluency & Skills Practice **Teacher Toolbox**

## Assign Solving Problems About Equal Groups

In this activity students solve word problems about equal groups. Students may experience similar real-world situations. For example, students may want to determine how many photos they need to fill each page of a photo album, how to split a restaurant bill equally among a group of friends, or how many minutes are in a certain number of hours.

## Fluency and Skills Practice

## Solving Problems About Equal Groups

Name: \_\_\_\_\_

Read and solve each problem. Show your work.

- 1 Heather has 18 photographs of rockets. She wants to hang them on 3 different walls in her room. Each wall will have the same number of photographs. How many photographs will hang on each wall?

There will be \_\_\_\_\_ photographs on each wall.

- 2 There are 24 people who want to play volleyball. The coach divides the players into teams of 6. How many teams can she make?

The coach can make \_\_\_\_\_ teams.

- 3 At an art show, there are 7 groups of paintings with 6 paintings in each group. How many paintings are there in all?

There are \_\_\_\_\_ paintings.

- 4 Jasmine reads for 10 minutes each night. If she reads for 5 nights, how many minutes will she read in all?

Jasmine will read for \_\_\_\_\_ minutes.

- 5 Rhonda plants 28 tomato plants in her garden. She plants 7 tomato plants in each row. How many rows does she plant?

Rhonda plants \_\_\_\_\_ rows.

- 6 Mr. Jones buys 6 packages of pencils. There are 8 pencils in each package. How many pencils does Mr. Jones buy?

Mr. Jones buys \_\_\_\_\_ pencils.

- 7 Choose one problem. Describe the strategy you used to solve it.

## LESSON 17 SESSION 2

- 4 The total number of students who take Mexican folk dance.

**Basic**

- 5  $2 \times 8 = n$ ,  $8 \times 2 = n$ ,  $n = 2 \times 8$ , or  $n = 8 \times 2$   
16

**Medium**

- 6  $15 \div 3 = n$ ,  $n = 15 \div 3$ ,  $3 \times n = 15$ ,  
or  $15 = 3 \times n$   
5

**Challenge**

- 7  $30 \div 3 = n$ ,  $n = 30 \div 3$ ,  $3 \times n = 30$ ,  
or  $30 = 3 \times n$   
10

**Challenge**

- 8 See Student Worktext page for possible answer.

**Challenge**

**There are 2 classes for Mexican folk dance. There are 8 students in each class. How many students take Mexican folk dance class?**

- 4 What is the unknown that you need to find out?

**how many students take the class**

- 5 Write an equation for the problem. Use  $n$  to stand for the number you need to find out. Solve the problem.

**Equation**  $2 \times 8 = n$  or  $n = 8 \times 2$

**16** students take Mexican folk dance class.

**15 students take modern dance lessons. There are 3 students in each group. How many groups of students are there?**

- 6 Write an equation for the problem. Then solve.

**Equation**  $15 \div 3 = n$  or  $3 \times n = 15$

There are **5** groups of students.

- 7 If 15 more students sign up for modern dance, how many groups would there be?

**Equation**  $30 \div 3 = n$  or  $3 \times n = 30$

There would be **10** groups of students.

- 8 How can you use the answer to problem 6 to find the answer to problem 7?

**Possible answer: Since there are twice as many students, there will be twice as many groups, or 10 groups.**

368



**English Language Learners: Differentiated Instruction**

**Prepare for Session 3**  
Use with *Connect It*.

### Levels 1–3

**Listening/Speaking** Read *Connect It* problem 1. Pair students. Say: *Word problems can be solved with arrays.* Give partners cards labeled: *rows*, *columns*, and *total*. Also provide cards with the symbols:  $\times$ ,  $\div$ , and  $=$ . Say: *Build a multiplication equation using these cards.* Display:

$$\text{rows} \times \text{columns} = \text{total}$$

Say: *Now display a division equation.* Display:

$$\text{total} \div \text{rows} = \text{columns}$$

$$\text{total} \div \text{columns} = \text{rows}$$

Say: *Think about Try It. What did you need to find? [the number of rows] Which of your division equations represents  $42 \div 6 = 7$ ? [total  $\div$  columns = rows] Have students use their cards and display.*

### Levels 2–4

**Listening/Speaking** Read *Connect It* problem 1. Pair students. Give pairs cards labeled: *total*, *rows*, *columns*,  $\times$ ,  $\div$ , and  $=$ . Say: *Arrays can represent word problems. Use the cards. Represent an array with a multiplication equation.* Display:

$$\text{rows} \times \text{columns} = \text{total}$$

Say: *Now display a division equation.* Display:

$$\text{total} \div \text{rows} = \text{columns}$$

$$\text{total} \div \text{columns} = \text{rows}$$

Say: *Use your cards and build a division equation that represents Try It.* Select pairs to share and explain their card equations referring to the context. Read problem 5 aloud. Repeat the building and sharing process. Ask: *What is the same about both problems?* [You had to find the number of rows in both.]

### Levels 3–5

**Listening/Speaking** Have pairs read *Connect It* problem 1. Display: *total*, *rows*, *columns*,  $\times$ ,  $\div$ , and  $=$ . Say: *Arrays can represent word problems. Represent an array with a multiplication equation.* Display:

$$\text{rows} \times \text{columns} = \text{total}$$

Say: *Think about Try It. With your partner, use these same words and symbols and represent the problem with a division equation.* Select pairs to share and explain their equation referring to the context. Have students read problem 5 and represent the problem. Repeat the process of sharing and explaining. Ask: *What is the same about these two problems?* [You have to find the number of rows in both.]

Solving Problems About Equal Groups

Name: \_\_\_\_\_

Read and solve each problem. Show your work.

**1** Heather has 18 photographs of rockets. She wants to hang them on 3 different walls in her room. Each wall will have the same number of photographs. How many photographs will hang on each wall?

There will be \_\_\_\_\_ photographs on each wall.

**2** There are 24 people who want to play volleyball. The coach divides the players into teams of 6. How many teams can she make?

The coach can make \_\_\_\_\_ teams.

**3** At an art show, there are 7 groups of paintings with 6 paintings in each group. How many paintings are there in all?

There are \_\_\_\_\_ paintings.

**4** Jasmine reads for 10 minutes each night. If she reads for 5 nights, how many minutes will she read in all?

Jasmine will read for \_\_\_\_\_ minutes.

**5** Rhonda plants 28 tomato plants in her garden. She plants 7 tomato plants in each row. How many rows does she plant?

Rhonda plants \_\_\_\_\_ rows.

**6** Mr. Jones buys 6 packages of pencils. There are 8 pencils in each package. How many pencils does Mr. Jones buy?

Mr. Jones buys \_\_\_\_\_ pencils.

**7** Choose one problem. Describe the strategy you used to solve it.

## Solving Problems About Equal Groups

Name: \_\_\_\_\_

**Read and solve each problem. Show your work.**

- 1** Heather has 18 photographs of rockets. She wants to hang them on 3 different walls in her room. Each wall will have the same number of photographs. How many photographs will hang on each wall?

There will be 6 photographs on each wall.

- 2** There are 24 people who want to play volleyball. The coach divides the players into teams of 6. How many teams can she make?

The coach can make 4 teams.

- 3** At an art show, there are 7 groups of paintings with 6 paintings in each group. How many paintings are there in all?

There are 42 paintings.

- 4** Jasmine reads for 10 minutes each night. If she reads for 5 nights, how many minutes will she read in all?

Jasmine will read for 50 minutes.

- 5** Rhonda plants 28 tomato plants in her garden. She plants 7 tomato plants in each row. How many rows does she plant?

Rhonda plants 4 rows.

- 6** Mr. Jones buys 6 packages of pencils. There are 8 pencils in each package. How many pencils does Mr. Jones buy?

Mr. Jones buys 48 pencils.

- 7** Choose one problem. Describe the strategy you used to solve it.

**Answers will vary. Possible answer: In problem 4, I drew an array with 10 objects in 5 rows, for a total of 50 objects.**

# Refine Solving Two-Step Word Problems Using the Four Operations

Complete the Example below. Then solve problems 1–9.

## EXAMPLE

**Bridget is packing strawberries in sandwich bags to sell at her gymnastics meet. She has 140 strawberries, and she makes bags of 5. So far, Bridget has packed 105 strawberries. How many more bags of 5 strawberries can Bridget make?**

Look at how you could show your work using an equation.

$$(140 - 105) \div 5 = b$$

$$35 \div 5 = b$$

$$b = ?$$

**Solution** .....

The student uses an equation that uses both subtraction and division.



## PAIR/SHARE

Can you write a different equation to solve this problem?

## APPLY IT

- 1 Students in Miss Kemp's class earn 1 point for each page they read. A student who earns 300 points gets a prize. Elise reads 8 pages a day for 7 days in a row. How many more points does she need to get a prize? Show your work.

**Solution** .....

What operation do you use to find how many pages Elise has read?

## PAIR/SHARE

How can you check your answer?

- 2 Emry has 243 stamps from the United States in her collection. She has 58 stamps from other countries. Emry puts 129 of her stamps in a scrapbook. She solves this equation:  
 $243 + 58 - 129 = s$ .

Emry says, "There are 172 stamps NOT in the scrapbook." Is her answer reasonable? Use estimation to check her work. Show your work.

Could you round the numbers to the nearest ten or hundred to estimate?



### Solution .....

- 3 In the morning, 134 books are checked out from the library. In the afternoon, 254 books are checked out, and 118 books are checked out in the evening. How many books in all are checked out from the library on this day?

- (A) 270
- (B) 388
- (C) 496
- (D) 506

Paolo chose (B) as the correct answer. How did he get that answer?

### PAIR/SHARE

Can you solve this problem in a different way?

How can you estimate the answer?

### PAIR/SHARE

How can you tell if Paolo's answer is reasonable?



- 4 Which equation CANNOT be used to solve the problem below?

Rosa and Brett are the only two people in a school election. Rosa gets 314 votes in the election. She gets 18 more votes than Brett. How many people voted in the election?

- (A)  $314 + (314 - 18) = n$   
 (B)  $n = 314 + (314 - 18)$   
 (C)  $(314 - 18) + 314 = n$   
 (D)  $314 + (314 + 18) = n$
- 5 George estimates that 800 people voted in the election in problem 4. Which mistake could he have made?
- (A) George rounded 18 down to 10 instead of up to 20.  
 (B) George rounded 314 up to 320 instead of down to 310.  
 (C) George rounded 314 up to 400 instead of down to 300.  
 (D) George rounded 18 up to 100 instead of down to 0.

- 6 A produce manager unpacks 108 bananas. There are 9 bunches of 4 bananas each. The rest are single bananas. Which pairs of equations can be used to find the number of single bananas?

- |                                       |                                       |
|---------------------------------------|---------------------------------------|
| (A) $9 \times 4 = b$<br>$108 - b = s$ | (B) $b = 108 \div 4$<br>$b + 9 = s$   |
| (C) $4 \times 9 = b$<br>$108 = s - b$ | (D) $108 \div 9 = b$<br>$b + 4 = s$   |
| (E) $b = 9 \times 4$<br>$s + b = 108$ | (F) $b = 9 \times 4$<br>$108 + s = b$ |

- 7 Greg is packing a book order. He has already packed 3 boxes with 5 books in each box. There are 210 books left to pack. How many books are in the whole order? Show your work.

There are ..... books in the whole order.

- 8 Gina wants to estimate the total of three bills she has to pay. The bills are for \$125, \$115, and \$138. Gina wants to make sure that she has enough money. She wants the estimate to be greater than the total of the bills. Should she round to the nearest ten or nearest hundred? Explain.

## 9 MATH JOURNAL

Simone is stocking a shelf with jars of pickles. She has one box with 30 jars and another box with 18 jars. She can fit 6 jars in a row on the shelf. Write and solve one equation to find out how many rows she makes using all the jars in both boxes. Explain how you solved the problem.



**SELF CHECK** Go back to the Unit 3 Opener and see what you can check off.

**Purpose** In this session students solve multiplication and division word problems involving equal groups, arrays, and area, then discuss and confirm their answers with a partner.

**Before students begin work**, use their responses to the *Check for Understanding* to determine those who will benefit from additional support.

**As students complete the Example and problems 1–3**, observe and monitor their reasoning to identify groupings for differentiated instruction.

**Start**

**Check for Understanding**

**Why** Confirm understanding of solving one-step word problems with multiplication and division.

**How** Have students use any strategy to find the number of desks in each row if there are 20 desks arranged in 4 equal rows.

There are 20 desks arranged in 4 equal rows. How many desks are in each row?



**Solution**  
5 desks

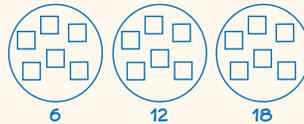
**Refine** Solving One-Step Word Problems Using Multiplication and Division

Complete the Example below. Then solve problems 1–9.

**EXAMPLE**

Troy has 18 homework problems to do. He has 3 days to finish the homework. If he does the same number of problems each day, how many problems will he do in a day?

Look at how you could show your work using a drawing.



**Solution** 6 problems each day

This problem can be solved using  $3 \times ? = 18$  or  $18 \div 3 = ?$ .



**PAIR/SHARE**

Which equation did you use and why?

**APPLY IT**

- Mr. Rivera is posting 28 student papers on the bulletin board. He posts the papers in 4 rows, with an equal number of papers in each row. How many papers does Mr. Rivera put in each row? Show your work.

**Possible student work using an array:**



**Solution** 7 in each row

What does 28 stand for in the problem?

**PAIR/SHARE**

Did you multiply or divide to solve the problem?

**Error Alert**

If the error is ...	Students may ...	To support understanding ...
16	have subtracted.	Have students draw an array using the information from the problem, marking one desk in each of four rows, one at a time, until they reach 20. Have them use the array to find the number of desks in each row.
24	have added.	Remediate the same as for a subtracting error.
80	have multiplied.	Have students make notes about the problem. Students should realize 20 is the total number of desks, so the answer cannot be greater than 20.
other answers	be struggling with multiplication and division word problems.	If students struggle with solving multiplication and division word problems, encourage them to use a table with the headings <i>Number of Groups</i> , <i>Number of Items Per Group</i> , and <i>Total Number of Items</i> to organize problem information.

**EXAMPLE**

6 problems each day; The equal groups drawing of 3 groups of 6 shown is one way to solve the problem. Students could also solve the problem with a  $3 \times 6$  array or the equation  $18 \div 3 = 6$ .

**Look for** The problem can be written as a multiplication or division equation with an unknown number.

**APPLY IT**

- 1 7 papers in each row; Students could solve the problem using a  $4 \times 7$  array. Students could also use an equation.

**DOK 2**

**Look for** 28 is the total, 4 is the number of equal groups, and the unknown number is the number in each group.

- 2 6 teams; Students could solve the problem using a  $6 \times 9$  array or tiling. Students could also use an equation.

**DOK 2**

**Look for** The facts  $t \times 9 = 54$  and  $54 \div 9 = t$  are two equations that could be used to help solve the word problem.

- 3 C; Students could solve the problem by multiplying  $7 \times 3 = ?$  because they are given the number of groups, 7, and the number in each group, 3. They need to find the total number of servings.

Explain why the other two answer choices are not correct:

**B** is not correct because 18 is equal to  $6 \times 3$ , not  $7 \times 3$ .

**D** is not correct because 24 is equal to  $8 \times 3$ , not  $7 \times 3$ .

**DOK 3**

- 2 There are 54 players at a baseball clinic. The coach puts them into teams of 9 players. How many teams are there? Show your work.

**Possible student work using an array:**

										54
										45
										36
										27
										18
										9

**Solution 6 teams**

- 3 Mai eats 3 servings of fruit each day. How many servings of fruit does she eat in a week? [1 week = 7 days]
- Ⓐ 10 servings  
 Ⓑ 18 servings  
 Ⓒ 21 servings  
 Ⓓ 24 servings

Harry chose Ⓐ as the correct answer. How did he get that answer?

**Possible answer: Harry added 3 and 7 instead of multiplying.**

What fact do you know that includes both numbers in the problem?

**PAIR/SHARE**

How can you check that your answer is correct?

Should you multiply or divide to solve the problem?

**PAIR/SHARE**

How did you figure out how Harry got his answer?

- 4 Each pair uses 2 socks, so  $8 \div 2 = 4$ .  
**DOK 1**
- 5 **A;** The total and number in each row are given, so the unknown is the number of rows:  
 $15 \div 5 = n; n = 3$  rows.  
**DOK 2**
- 6 **B (No);**  
**C (Yes);**  
**F (No);**  
**G (Yes)**  
**DOK 1**

**Error Alert** Students who choose A and/or E may not understand that 42 is the total, and so it is the product in a multiplication problem and is the number right before the division symbol in a division problem.

- 4 There are 8 socks in the dryer.  
How many pairs of socks is this?



- 5 Dana forms a rectangle with 15 square sticky notes.  
She puts 5 notes in each row.  
How many rows does she make?
- 6 Jasmine has 42 balloons. She gives an equal number of balloons to 6 children.  
Can each equation be used to find the number of balloons Jasmine gives each child?

- (A) 3  
(B) 5  
(C) 10  
(D) 20

	Yes	No
$42 \times 6 = \square$	(A)	(B)
$6 \times \square = 42$	(C)	(D)
$6 \div \square = 42$	(E)	(F)
$42 \div 6 = \square$	(G)	(H)

**Differentiated Instruction**

**RETEACH**

**Hands-On Activity**  
Use an “act-it-out strategy” to solve one-step word problems.

- Students** struggling with solving one-step word problems  
**Will benefit from** additional work with concrete objects.
- Materials** For display: example problems, objects to support problems
- Make several “stores” such as *School Supplies, Snacks, Groceries*, etc. and have 1 or 2 related problems to solve at each store.
  - Have groups of 3 or 4 visit each store to solve a problem. Stores should be equipped with objects required to solve the problem. For example, *School Supplies* may have this problem: *Each box contains 8 pencils. There are 32 pencils. How many boxes are there?* This store would have pencils for the students to use as manipulatives.
  - Students act out the problem and then model it with an equation and solve it. So, for the pencil problem:  $32 \div 8 = b$  or  $b \times 8 = 32; b = 4$ .

**EXTEND**

**Challenge Activity**  
Solve more complex problems.

- Students** who have achieved proficiency  
**Will benefit from** deepening understanding of more complex problems.
- Have students work in pairs to solve these problems.
- Greater number: *Pat buys hair ribbons for 12 friends. The ribbons cost \$8 each. How much did she spend?* [\$96]
  - Remainder: *Mrs. Ro buys a box of 35 pencils to give to 15 students. How many pencils can Mrs. Ro give each student? Will she have any left over? If so, how many?* [2; 5]
  - Multi-step: *Jake needs \$150 to buy a bike. He has \$40. He mows 3 lawns, earning \$25 for each. Does he have enough money to buy the bike? If not, how much more is needed?* [No; \$35]

- 7 A; Brandon is dividing 12 cookies evenly among 4 friends, which can be solved with the equation  $12 \div 4 = \square$ .

C; 12 miles divided into equal groups of 4 can be solved with the equation  $12 \div 4 = \square$ .

D; Lilah is dividing 12 tomatoes into equal groups of 4, which can be solved with the equation  $12 \div 4 = \square$ .

**DOK 2**

- 8 5 feet; Students may draw a tiling with 5 rows of 5 tiles in each row; A square has sides that are the same length, so the number of rows and the number of tiles in each row must be the same.  
 $5 \times 5 = 25$ .

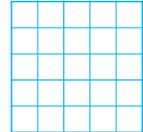
**DOK 2**

- 7 Which problems can be solved using  $12 \div 4 = \square$ ?

- (A) Brandon has 12 cookies. He gives the same number of cookies to each of his 4 friends. How many cookies does each friend get?
- (B) Zoe has 12 folders. She wants to put 4 papers in each folder. How many papers does she need?
- (C) Michael rides his bike 4 miles a day. How many days will it take him to ride 12 miles?
- (D) Lilah has 12 tomatoes. She always uses 4 tomatoes to make a salad. How many salads can she make?
- (E) Jacob has 12 flowers. He gives 4 flowers to his friends. How many flowers does Jacob have left?



- 8 Catrina uses green tiles to make a square on her kitchen floor that has an area of 25 square feet. How long is each side of the green square? Show your work.



**Possible student drawing:**

Each side of the green square is .....5..... feet long.

- 9 **MATH JOURNAL**

Missy wants to hang 12 pictures on her bedroom wall. She hangs 3 pictures in each row. How many rows of pictures are there? Explain two ways to find the answer.

**Possible answer:** I can draw an array to model Missy's pictures. Each row has 3 pictures, so there are 4 rows. I can also write a division equation to find the answer.  $12 \div 3 = 4$ . So, there are 4 rows of pictures.



**SELF CHECK** Go back to the Unit 3 Opener and see what you can check off.

384

## REINFORCE

### Problems 4–9

Solve one-step word problems using multiplication and division.

All students will benefit from additional work with using multiplication and division to solve one-step word problems by solving problems in a variety of formats.

- Have students work on their own or with a partner to solve the problems.
- Encourage students to show their work.

## PERSONALIZE



Provide students with opportunities to work on their personalized instruction path with *i-Ready* Online Instruction to:

- fill prerequisite gaps
- build up grade-level skills

## Close: Exit Ticket

### 9 MATH JOURNAL

Student responses should indicate understanding of two different strategies for solving a one-step multiplication or division word problem.

**Error Alert** If students add or multiply 12 and 3 [and get 15 or 36], then use sticky notes or a quick drawing on grid paper to model the problem. Remind students that Missy is hanging 12 pictures in all, so 12 is the total.



**SELF CHECK** Have students consider whether they feel they are ready to check off any new skills on the Unit 3 Opener.

# Cumulative Practice

Name: \_\_\_\_\_

## Set 1: Multiplication

Show what each expression means by drawing equal groups.  
Then write the product.

1  $3 \times 6$

2  $5 \times 3$

$3 \times 6 = \dots\dots\dots$

$5 \times 3 = \dots\dots\dots$

## Set 2: Multiplying in Word Problems

Solve the word problems. Show your work.

1 Solange has 5 packs of batteries. Each pack has 6 batteries.  
How many batteries does Solange have?

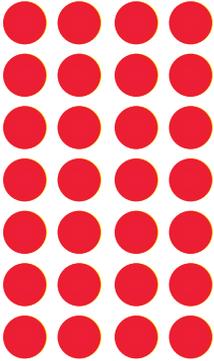
2 Max is painting cats on 10 windows. In each window, he also paints  
a ball of yarn. How many balls of yarn does Max paint?

3 Lili has 2 cartons of eggs. Each carton has 8 eggs.  
How many eggs does Lili have?

## Set 3: Break Apart to Multiply

Draw lines on the array and fill in the blanks to show your work.

- 1 Break apart the array to find  $7 \times 4$ .

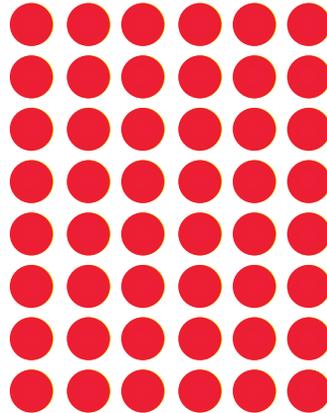


$$7 \times 4 = (7 \times \dots) + (7 \times \dots)$$

$$= \dots + \dots = \dots$$

$$7 \times 4 = \dots$$

- 2 Break apart the array to find  $8 \times 6$ .



$$8 \times 6 = (8 \times \dots) + (8 \times \dots)$$

$$= \dots + \dots = \dots$$

$$8 \times 6 = \dots$$

## Set 4: Use Order and Grouping to Multiply

Choose an order and use parentheses to show one way to multiply the factors. Then show the steps to find the product.

- 1 Multiply the factors 2, 3 and 4.

- 2 Multiply the factors 7, 2 and 5.

- 3 Multiply the factors 6, 3 and 2.

- 4 Multiply the factors 5, 4 and 2.

Name: \_\_\_\_\_

## Set 5: Division

Use any model to show the division expression. Then write the quotient.

1  $35 \div 5 =$  .....

2  $21 \div 7 =$  .....

$35 \div 5 =$  .....

$21 \div 7 =$  .....

## Set 6: Connect Multiplication and Division

The array shows that  $8 \times 7 = 56$ . Use this fact to complete the equations.

1  $8 \times 7 =$  .....

$7 \times 8 =$  .....

2  $8 \times$  .....  $= 56$

$56 =$  .....  $\times 8$

3  $56 \div 8 =$  .....

$56 \div$  .....  $= 8$

4 .....  $= 56 \div 7$

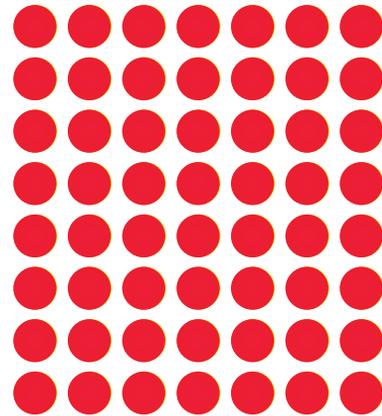
$7 = 56 \div$  .....

5 .....  $\times 7 = 56$

$7 \times$  .....  $= 56$

6  $8 =$  .....  $\div 7$

.....  $\div 8 = 7$



## Set 7: Multiplication and Division Fact Families

Complete the fact families.

① $6 \times \dots = 24$	② $\dots \times 8 = 40$	③ $4 \times \dots = 32$
$\dots \times 4 = 24$	$5 \times \dots = 40$	$8 \times \dots = 32$
$24 \div \dots = 6$	$\dots \div 5 = 8$	$32 \div \dots = 8$
$\dots \div 6 = 4$	$40 \div \dots = 5$	$\dots \div 8 = 4$

## Set 8: Multiply and Divide Within 100

Solve the problems.

① $8 \times 8 = \dots$	② $9 \times 4 = \dots$	③ $6 \times 9 = \dots$
④ $10 \times 6 = \dots$	⑤ $0 \times 8 = \dots$	⑥ $1 \times 9 = \dots$
⑦ $42 \div 7 = \dots$	⑧ $36 \div 9 = \dots$	⑨ $24 \div 3 = \dots$
⑩ $63 \div 9 = \dots$	⑪ $81 \div 9 = \dots$	⑫ $72 \div 8 = \dots$

## Set 9: Patterns in Numbers

Use the multiplication chart for problems 1–5.

- Fill in the missing products in the multiplication chart.
- Which factor, other than 2, has all the numbers you wrote in problem 1 in its row?  
.....
- The product of two even numbers is always .....
- The product of two odd numbers is always .....
- The product of an odd number and an even number is always .....

×	1	2	3	4	5	6
1	1	2	3	4	5	6
2	2		6		10	
3	3	6	9	12	15	18
4	4		12	16	20	24
5	5	10	15	20	25	30
6	6		18	24	30	36