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6.7 Sharing and Grouping Page 1

Student Book pages 188–190

GOAL

Use 2 meanings of division to solve problems.

Checking

1. a) This is a sharing problem.

Hari's family composted 42 kg of scraps in 7 weeks.

How many kilograms of scraps did they compost each week?

42	÷	7	=	_____
total kilograms of scraps		number of weeks		kilograms of scraps in each week

Separate the 42 kg of scraps into the 7 weeks.

Start by adding 1 piece at a time.

42 ÷ 7 = _____ kg

Hari's family composted _____ kg of scraps each week.

b) This is a grouping problem.

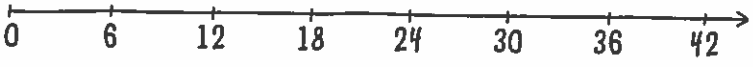
Hari's family composted 6 kg of scraps each week.

How many weeks did it take them to compost 42 kg?

42	÷	6	=	_____
total kilograms of scraps		kilograms of scraps per week	=	how many weeks

Use the number line below.

Start at 42 and keep subtracting by 6 to get to 0.



There are _____ groups of 6 in 42.

42 ÷ 6 = _____

It took Hari's family _____ weeks to compost the 42 kg of scraps.

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6.7 Sharing and Grouping Page 2

Practising

4. Calculate. Show both sharing and grouping.

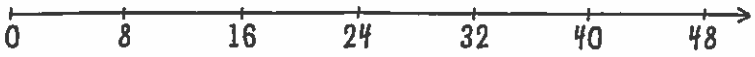
a) $6\overline{)18}$

$18 \div 6 =$ _____

b) $3\overline{)21}$

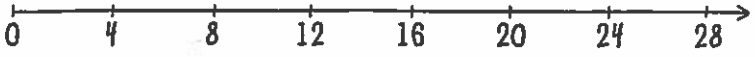
$21 \div 3 =$ _____

c) $8\overline{)48}$



$48 \div 8 =$ _____

d) $4\overline{)28}$



$28 \div 4 =$ _____

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6.7 Sharing and Grouping Page 1

Student Book pages 188–190

GOAL

Use 2 meanings of division to solve problems.

You will need

- counters
- a number line

Problem

Diane and Ken both baked 20 cookies.

Ken wants to share his cookies equally with 4 friends.

He wants to know how many cookies each of his friends will get.

Diane wants to give away gift bags with 5 cookies in each bag.

She wants to know how many bags she will be giving away.

How can Ken and Diane solve their division problems?

Ken's problem is a sharing problem.

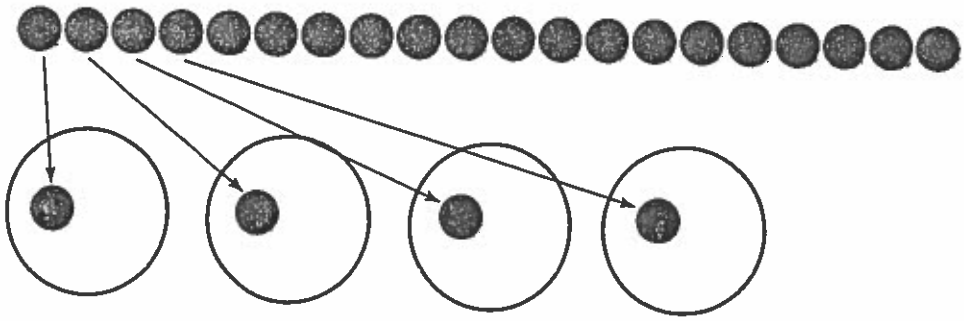
The 20 cookies will be shared equally among 4 friends.

Use counters to show how the cookies will be shared.

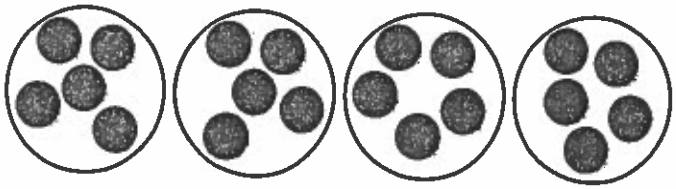
Hint: Put 1 counter at a time into a group until all the cookies are gone.

$$20 \div 4 = \_\_\_\_$$

- 20: number of cookies
- 4: number of friends
- ____: number of cookies for each friend



When you are finished, your groups should look like this:



So, each of Ken's friends got _____ cookies.

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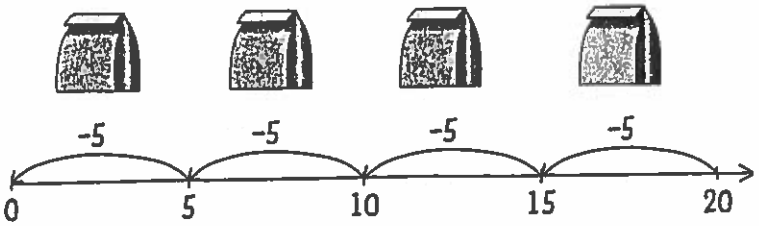
6.7 Sharing and Grouping Page 2

Diane's problem is a grouping problem.
20 cookies are placed in groups of 5.
Use a number line to keep track of how many are left after 5 cookies are put in each bag.

$$20 \div 5 = \_\_\_\_$$

- 20: number of cookies
- 5: number of cookies in each bag
- ____: number of bags



Diane will have _____ bags of cookies to give away.

Reflecting

How is Diane's division problem like subtraction?

How would Ken use counters to calculate 15 ÷ 3?

How would Diane use counters to calculate 15 ÷ 3?

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Scaffolding for Lesson 7, Question 4

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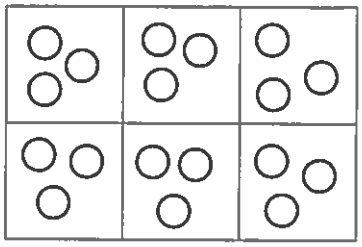
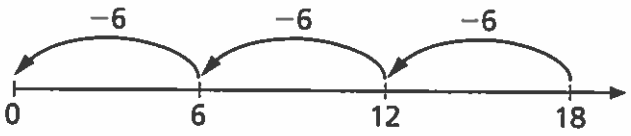
4. Calculate. Use sharing into equal groups and grouping on a number line. The first one is done for you.

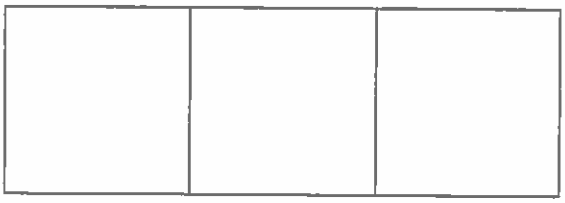
a) $6\overline{)18}$





$18 \div 6 =$ _____ $6\overline{)18}$

b) $3\overline{)21}$



$21 \div 3 =$ _____ $3\overline{)21}$

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Scaffolding for Lesson 7, Question 4

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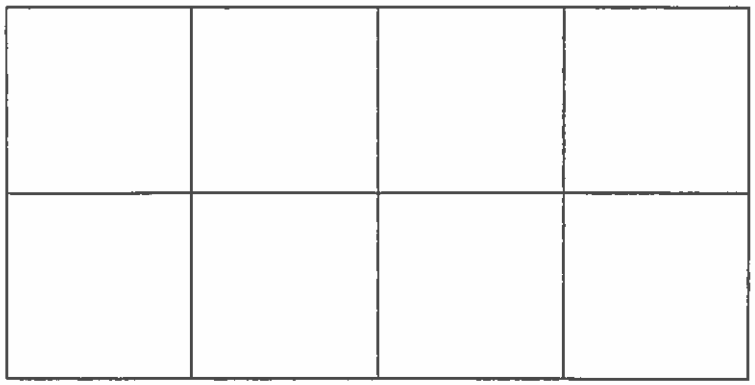
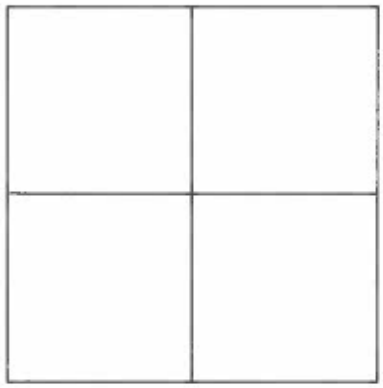
c) $8\overline{)48}$



$48 \div 8 =$ _____ $8\overline{)48}$

d) $4\overline{)28}$



$28 \div 4 =$ _____ $4\overline{)28}$

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6.8 Division and Multiplication Page 1

Student Book pages 192–195

GOAL

Divide by using related multiplication facts.

Checking

1. 45 students want to play Turtle Catcher in equal groups of 5.

   Share 45 counters into circles of 5.

   The first one is done for you.

   How many circles did you make? _____

   Write a division sentence for this problem:

   _____ (number of students) ÷ _____ (number in each group) = _____ (number of circles needed)

   Write a multiplication sentence to check your answer.

   _____ (number in a group) × _____ (number of circles) = _____ (number of students)

   There are _____ groups of _____ in 45.

   45 ÷ 5 = _____

   Check your answer by using multiplication.

   _____ × 5 = 45

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Chapter 6

Lesson 7

Sharing and Grouping

GOAL

Use 2 meanings of division to solve problems.

1. Calculate.

a) $4\overline{)16}$

b) $5\overline{)20}$

c) $2\overline{)14}$

d) $8\overline{)32}$

e) $5\overline{)35}$

f) $9\overline{)27}$

g) $6\overline{)36}$

h) $12\overline{)24}$

2. Calculate.

a) $30 \div 3 =$ _____

b) $15 \div 5 =$ _____

c) $10 \div 2 =$ _____

d) $12 \div 4 =$ _____

e) $24 \div 8 =$ _____

f) $40 \div 2 =$ _____

g) $25 \div 5 =$ _____

h) $36 \div 4 =$ _____

3. Ken placed 42 beads in 6 equal groups. How many beads are in each group? Use a drawing or a number line to help you solve the problem.

4. Samia gave the same number of beads to each of 7 friends. She started with 56 beads. How many beads did she give to each friend?

At-Home Help

2 ways to think of division:

Sharing: when you have something to share in equal groups; for example, you have 20 coins to share among 4 friends.

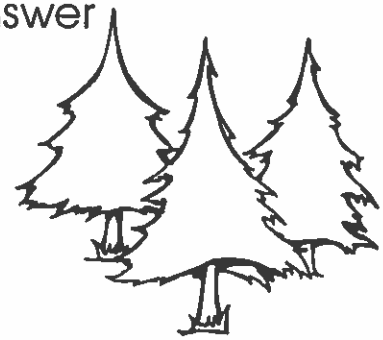
Grouping: when you divide something into groups of equal size; for example, you have 20 coins to place in groups of 4.

You can solve both types of problems in the same way.

$20 \div 4 = 5$ or $4\overline{)20}^{\,5}$

Division

Division is a way to find out how many times one number is contained in another number. The ÷ sign means "divided by." Another way to divide is to use ⟌. The dividend is the larger number that is divided by the smaller number, or divisor. The answer of a division problem is called the quotient.



Directions: Study the example. Divide.

Example:

$$\underset{\text{dividend}}{20} \div \underset{\text{divisor}}{4} = \underset{\text{quotient}}{5}$$

$$\begin{array}{r} \text{quotient} \\ 5 \\ 4\overline{)20} \\ \text{divisor}\ \ \text{dividend} \end{array}$$

35 ÷ 7 = ____ $7\overline{)35}$ 42 ÷ 6 = ____ $6\overline{)42}$

$2\overline{)12}$ $3\overline{)18}$ $4\overline{)36}$ $5\overline{)50}$

$6\overline{)24}$ $7\overline{)21}$ $8\overline{)32}$ $9\overline{)27}$

36 ÷ 6 = ____ 28 ÷ 4 = ____ 15 ÷ 5 = ____ 12 ÷ 2 = ____

A tree farm has 36 trees. There are 4 rows of trees. How many trees are there in each row? _____

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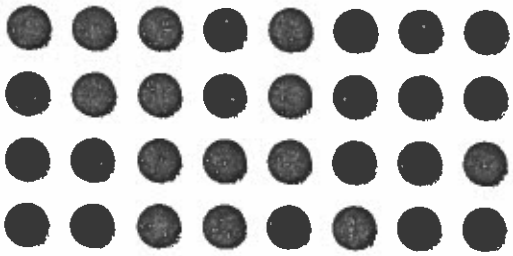
6.8 Division and Multiplication Page 2

Practising

2. Barrett used 32 counters to make this array.



How many counters are in each row? _____

How many rows are in the array? _____

What numbers will he probably write in each equation?

_____ × _____ = 32

32 ÷ _____ = _____

4. 36 students are going on a guided nature walk at the Kerry Wood Nature Centre in Red Deer, Alberta.

They must have at least 1 adult supervisor for every 6 students.

Hint: Use 36 counters to represent the students.

There are _____ groups of _____ in _____.

Use division and multiplication sentences to show your work.

_____ × _____ = _____

_____ ÷ _____ = _____

How many adults are needed to supervise the students? _____

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Chapter 6
Lesson 8

Division and Multiplication

GOAL

Divide by using related multiplication facts.

1. Use each multiplication fact to calculate the quotient.

a) $4 \times 5 = 20$, so $20 \div 5 =$ _____

b) $3 \times 6 = 18$, so $18 \div 3 =$ _____

c) $10 \times 4 = 40$, so $40 \div 10 =$ _____

d) $2 \times 16 = 32$, so $32 \div 16 =$ _____

2. Calculate.

a) $15 \div$ _____ $= 3$

b) $6 \div 1 =$ _____

c) _____ $\div 6 = 4$

d) $49 \div 7 =$ _____

3. Calculate.

a) $5\overline{)50}$ **b)** $9\overline{)63}$ **c)** $8\overline{)48}$ **d)** $8\overline{)72}$

4. An airplane has 30 seats placed in rows of 5. How many rows are there?

5. François organizes 28 students into 7 groups. How many students are in each group?

6. Michael has $36. He gives $6 to each friend. How many friends get $6?

At-Home Help

The **dividend** is the starting amount in a division operation.

The **divisor** is the number you divide by in division.

The **quotient** is the result you get when you divide.

You can use multiplication facts to help you solve division facts. For example,

$35 \div 7 =$ ■

$5 \times 7 = 35$, so $35 \div 7 = 5$.

dividend divisor quotient

Name: _____ Date: _____

Matching Pairs Game Cards

Math Game: Matching Pairs

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$\square \times 9 = 9$	$\square \times 9 = 27$	$9 \times \square = 45$	$\square \times 3 = 21$	$6 \times \square = 54$	$\square \times 8 = 64$
$9 \div 9 = \square$	$24 \div 8 = \square$	$35 \div 7 = \square$	$49 \div \square = 7$	$45 \div 5 = \square$	$32 \div \square = 4$
$\square \div 6 = 0$	$7 \times \square = 14$	$\square \times 9 = 36$	$\square \times 8 = 48$	$9 \times \square = 72$	$6 \times \square = 60$
$7 \times 0 = \square$	$18 \div 9 = \square$	$20 \div \square = 5$	$36 \div \square = 6$	$56 \div 7 = \square$	$90 \div 9 = \square$