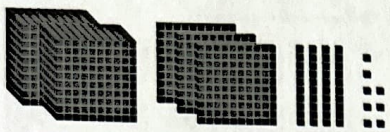
Chapter 1 Numbers to 10,000

Exercise 1

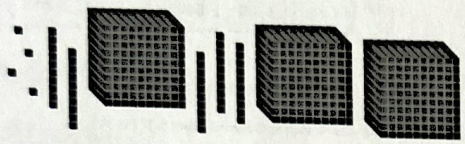
Basics

1 

2 thousands 3 hundreds 4 tens 8 ones

How many blocks (■) are there in all? 2,348

Write the number in words. two thousand, three hundred forty-eight

2 

3 thousands, 0 hundreds, 5 tens, and 4 ones

How many blocks (■) are there in all? 3,054

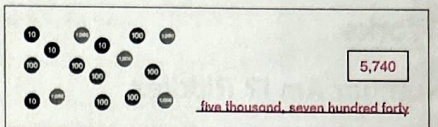
Write the number in words. three thousand, fifty-four

3 (a) 6,000 + 300 + 20 + 4 = 6,324

(b) 7,000 + 500 + 20 = 7,520

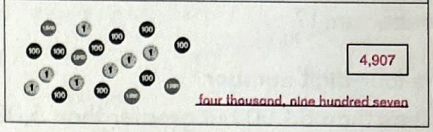
Practice

4 Write the number and the number word.

(a) 

5,740

five thousand, seven hundred forty

(b) 

4,907

four thousand, nine hundred seven

5 (a) 9 thousands, 4 hundreds, 3 tens, and 8 ones make 9,438.

(b) 3 thousands, 2 hundreds, and 4 ones make 3,204.

(c) 7 thousands, 9 tens, and 2 ones make 7,092.

(d) 9 thousands and 1 one make 9,001.

(e) 4 tens, 2 ones, 8 thousands, and 3 hundreds make 8,342.

(f) 9 ones, 4 thousands, and 8 tens make 4,089.

6 (a) 8,000 + 900 + 7 = 8,907

(b) 2,000 + 20 = 2,020

(c) 20 + 5,000 + 300 + 7 = 5,327

(d) 400 + 3,000 + 30 + 4 = 3,434

7 Write the number.

eight thousand, four hundred twenty-two	8,422
nine thousand, thirty-seven	9,037
five thousand, three hundred seven	5,307
two thousand, six	2,006

8 Count on by ones and write the missing numbers.

(a) **997** **998** 999 1,000 1,001 1,002

(b) **5,896** **5,897** 5,898 5,899 5,900 5,901

Challenge

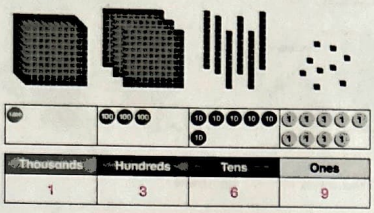
9 Count on by threes and write the missing numbers.

4,295 **4,298** 4,301 4,304 4,307 4,310

Exercise 2

Basics

1 (a) Write the numbers in the place-value chart.

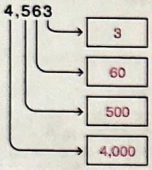


Thousands	Hundreds	Tens	Ones
1	3	6	9

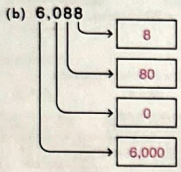
(b) How many blocks (■) are there in all? 1,369

2 What is the value of each digit?

(a) 4,563



(b) 6,088

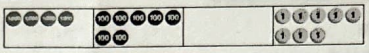


(c) In 4,563, the digit 6 is in the tens place.

(d) In 6,088, the digit 6 is in the thousands place.

Practice

3



(a) What number is shown? 4,708

(b) Write the number in words.

four thousand, seven hundred eight

(c) The digit 4 is in the thousands place, and its value is 4,000.

(d) The digit 0 is in the tens place, and its value is 0.

(e) The value of the digit 7 is 700.

4

Thousands	Hundreds	Tens	Ones
8	0	4	7

In 8,047...

(a) The digit 4 is in the tens place, and its value is 40.

(b) The digit 8 stands for 8 thousands, and its value is 8,000.

(c) The digit 0 is in the hundreds place, and its value is 0.

(d) The value of the digit 7 is 7.

5 (a) 6,437 = 6,000 + 400 + 30 + 7

(b) 2,442 = 2,000 + 400 + 40 + 2

(c) 8,109 = 8,000 + 100 + 9

(d) 3,730 = 3,000 + 700 + 30

(e) 5,029 = 5,000 + 20 + 9

(f) 9,009 = 9,000 + 9

6 (a) 1,392 = 2 + 90 + 300 + 1,000

(b) 5,353 = 300 + 5,000 + 50 + 3

(c) 9,620 = 600 + 9,000 + 20

(d) 4,001 = 1 + 4,000

(e) 3,030 = 30 + 3,000

Challenge

7 Use the clues to find the mystery 4-digit number.

Clue 1: The value of one of the digits is 200.
Clue 2: One of the digits stands for 8 thousands.
Clue 3: The digit 2 is in the ones place.
Clue 4: The total of the digits when added together is 12.

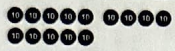
The number is 8,202.

Exercise 3

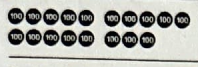
Basics

1 Write the numbers.

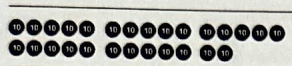
19



140



1,800



270

2,150

2 (a) 1,000 = 1 thousand
1,000 = 10 hundreds
1,000 = 100 tens
1,000 = 1,000 ones
1,100 = 11 hundreds
1,100 = 110 tens

(b) 6,000 = 60 hundreds
6,000 = 600 tens
6,400 = 64 hundreds
6,400 = 640 tens
6,430 = 643 tens
6,430 = 6,430 ones

Practice

3 (a) 3,736 = 37 hundreds + 36 ones
= 373 tens + 6 ones

(b) 6,020 = 6 thousands + 2 tens
= 602 tens

(c) 3,000 = 3 thousands
= 2 thousands + 10 hundreds
= 1 thousand + 20 hundreds
= 2 thousands + 100 tens
= 1 thousand + 200 tens
= 20 hundreds + 1,000 ones

4 Cross out the incorrect answers.

6,203 is the same as...

~~6,200 tens~~ — 6 thousand + 203 ones
~~62 hundreds + 11 ones~~ — 62 hundreds + 3 ones
~~6 thousands + 2 hundreds~~ — ~~62 tens + 3 ones~~

5 Write the number.

80 hundreds	8,000
30 tens	300
400 tens	4,000
628 tens	6,280
600 tens + 5 ones	6,005
4 thousands + 20 hundreds + 5 ones	6,005

Challenge

6 4,600 = 3 thousands + 16 hundreds
= 2 thousands + 260 tens

7 A bakery sells cookies in boxes of 100 and bags of 10.
4,945 cookies were packed into boxes of 100, and then the rest were packed into bags of 10.

(a) How many full boxes of 100 cookies are there? 49

(b) How many full bags of 10 cookies are there? 4

(c) How many cookies are unpacked? 5

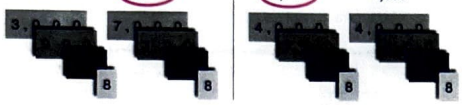
(d) If the 4,945 cookies were packed just into bags of 10, how many full bags would there be? 494

Exercise 4

Basics

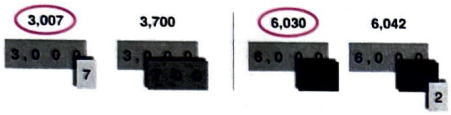
1. Which number is greater?
Circle it.

3,998 **7,118** | **4,748** 4,698



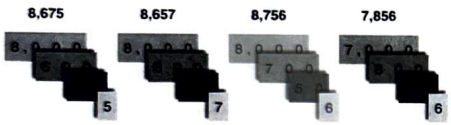
2. Which number is less?
Circle it.

3,007 3,700 | **6,030** 6,042



3. Write the numbers in order from least to greatest.

8,675 8,657 8,756 7,856



7,856 | 8,657 | 8,675 | 8,756

Practice

4. Write > or < in the ◯.

(a) 8,262 (>) 2,558

(b) 9,532 (>) 9,352

(c) 6,365 (<) 6,390

(d) 5,556 (<) 5,565

5. Write the numbers in order from greatest to least.

5,900 9,050 950 5,009

9,050 | 5,900 | 5,009 | 950

6. The table shows the heights of some mountains in meters.

Mountain	Meters
Pichu Pichu (Peru)	5,664
Little Si (U.S.A.)	480
Mount Tyree (Antarctica)	4,852
Mount Everest (Nepal)	8,848
Mont Blanc (France)	4,810
Castle Peak (U.S.A.)	4,348

List the mountains in order from the tallest to the shortest.

Mount Everest, Pichu Pichu, Mount Tyree, Mont Blanc, Castle Peak, Little Si

7. Write the greatest and least 4-digit number you can make using all the digits.

Digits	Greatest	Least
6, 2, 1, 5	6,521	1,256
4, 0, 6, 8	8,640	4,068

8. Use all of the digits 6, 8, 5, 2 to make...

(a) The greatest number between 2,700 and 5,700. 5,682

(b) The least number between 2,700 and 5,700. 2,856

9. Write >, <, or = in the ◯.

(a) 1,400 + 4 (<) 1,000 + 40 + 600

(b) 900 + 50 + 4,000 (>) 4,000 + 5 + 90

Challenge

10. Read the clues.
Then circle the correct number.

Clue 1: The digit 4 is in the hundreds place.
Clue 2: There are more than 40 hundreds.
Clue 3: There are less than 450 tens.

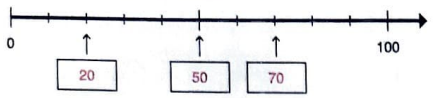
5,440 | 3,400 | **4,445** | 4,500

Exercise 5

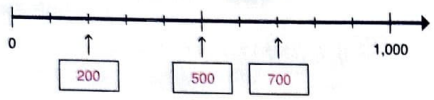
Basics

1 Write the value of the increment between each tick mark. Then write the number indicated by each arrow.

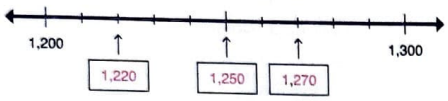
(a) The increment between tick marks is 10.



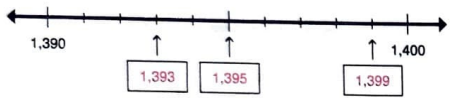
(b) The increment between tick marks is 100.



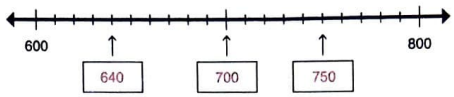
(c) The increment between tick marks is 10.



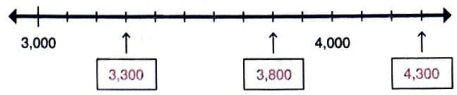
(d) The increment between tick marks is 1.



(e) The increment between tick marks is 10.



(f) The increment between tick marks is 100.



2 For each number line, draw an arrow to the tick mark that is halfway between the two labeled tick marks, and write the number.

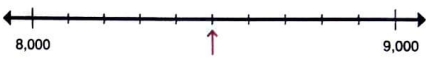
(a)

50 is halfway between 0 and 100.

(b)

550 is halfway between 500 and 600.

(c)

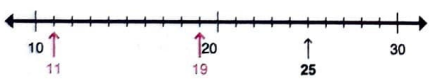


8,500 is halfway between 8,000 and 9,000.

Practice

3 Draw arrows to show the location of the numbers on each number line. Label the arrows with the numbers.

(a) 25 11 19



(b) 850 980 920

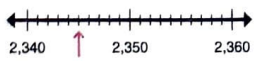
(c) 4,700 4,500 3,300

4 For each number line, draw an arrow to the tick mark that is halfway between the two labeled tick marks, and write the number.

(a)

435 is halfway between 430 and 440.

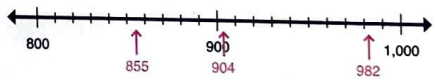
(b)



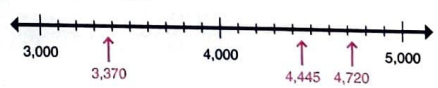
2,345 is halfway between 2,340 and 2,350.

5 Draw arrows to show the approximate location of the numbers on each number line.
Label the arrows with the numbers.

(a) 855 982 904



(b) 4,720 4,445 3,370

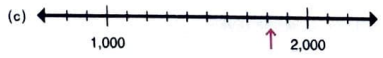


6 Draw an arrow to show the location or approximate location of 1,825 on each of the following number lines.

(a)

(b)

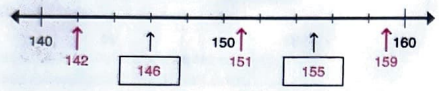
(c)



Challenge

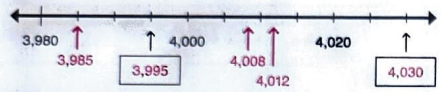
7 For each of the following, write the number indicated by each arrow. Also draw arrows and label them to indicate the location or approximate location of the given numbers.

(a) The increment between tick marks is 2.



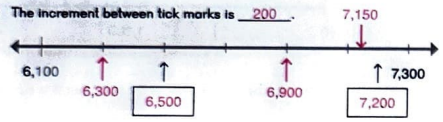
142 151 159

(b) The increment between tick marks is 5.



3,985 4,008 4,012

(c) The increment between tick marks is 200.



6,900 6,300 7,150

Exercise 6

Check

1. In the number 6,940...

   (a) The digit [4] is in the tens place.

   (b) The digit 9 is in the ___hundreds___ place.

   (c) The digit 6 stands for 6 ___thousands___.

   (d) The number is the same as [69] hundreds and [4] tens.

   (e) Write the number in words.

   six thousand, nine hundred forty

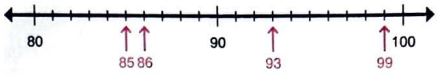
2. (a) 4,004 = [4] thousands + 4 ones
   = [40] hundreds + 4 ones
   = [400] tens + 4 ones
   = [4,004] ones

   (b) 8,904 = 8 thousands + [90] tens + 4 ones
   = [89] hundreds + 4 ones
   = [890] tens + 4 ones
   = [8,904] ones

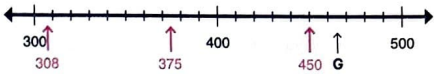
3. Draw arrows and label them to show the location or approximate location of the given numbers on each number line.

   (a) 86 93 99

   The number that is halfway between 80 and 90: 85

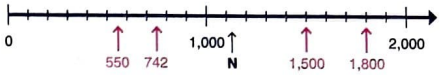
   (b) 308 375 450

   What number is indicated by G? 465

   (c) 550 1,800 742

   The number that is halfway between 1,000 and 2,000: 1,500

   What number is indicated by the tick mark N is closest to? 1,100

4. (a) Write the numbers.

9,000 + 400 + 8	9,408
5 + 600 + 40 + 2,000	2,645
three thousand, eight hundred seventy-two	3,872
seven thousand, sixty-four	7,064
one thousand, one	1,001
3 thousand + 20 tens + 5 ones	3,205
350 tens	3,500
90 hundreds + 48 ones	9,048
700 tens + 7 tens	7,070

   (b) Arrange the numbers above from greatest to least.

   9,408 9,048 7,070 7,064 3,872 3,500 3,205 2,645 1,001

5. Write >, <, or = in the ◯.

   (a) 400 tens + 20 tens (=) 200 ones + 4 thousands

   (b) 7 thousands + 23 tens (>) 70 hundreds + 23 ones

   (c) 34 hundreds + 20 tens (=) 3,600

Challenge

6. A bank teller counted the money she had collected at the end of the day. She collected the following bills:

   - 65 one-hundred dollar bills 6,500
   - 23 ten-dollar bills 230
   - 63 one-dollar bills 63

   How much money did she collect? [$6,793]

7. Use the clues and circle the correct number.

   Clue 1: The difference between the digit in the hundreds place and the ones place is 6.
   Clue 2: The digit 2 is in the tens place.
   Clue 3: There are at most 7,000 ones.

   [8,721] [6,923] [6,922] [5,892]

8. Use the clues to find the mystery 4-digit number.

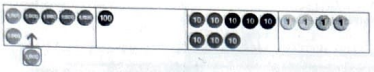
   Clue 1: The digit in the tens place is twice the digit in the thousands place.
   Clue 2: The digit in the hundreds place is 1 less than the digit in the thousands place.
   Clue 3: The digit in the ones place is 2.
   Clue 4: The sum of the digits is 13.

   What is the number? [3,262]

   The digits in the thousands, hundreds and tens place have a sum of 11. Student can use logical trial and error to find those digits.

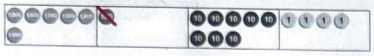
Exercise 7

Basics

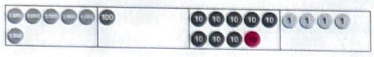
1 

1,000 more than 6,184 is 7,184.

2 Draw more discs or cross off discs to show the number.
There should be no more than 9 discs in each place.

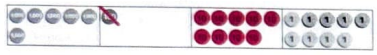


100 less than 6,184 is 6,084.



10 more than 6,184 is 6,194.

100 more than 6,925 is 7,025.



10 less than 6,109 is 6,099.

Practice

3 Follow the rules to complete the number patterns.

(a) Count on by tens.

5,176	**5,186**	5,196	5,206	5,216	5,226

(b) Count back by hundreds.

3,333	**3,233**	3,133	3,033	2,933	2,833

(c) Count on by thousands.

20	1,020	2,020	3,020	4,020	5,020

4 (a) 4,523 + 100 = 4,623 (b) 7,032 + 10 = 7,042

(c) 1,690 + 10 = 1,700 (d) 1,096 − 1,000 = 96

(e) 1,047 − 100 = 947 (f) 1,523 − 10 = 1,513

(g) 6,984 + 100 = 7,084 (h) 4,906 − 10 = 4,896

(i) 6,992 + 10 = 7,002 (j) 8,006 − 10 = 7,996

5 (a) 2,608 + 100 = 2,708 (b) 2,605 + 1,000 = 3,605

(c) 7,012 − 100 = 6,912 (d) 1,091 − 10 = 1,081

(e) 8,219 − 100 = 8,119 (f) 8,930 + 100 = 9,030

(g) 3,833 − 1,000 = 2,833 (h) 5,893 + 10 = 5,903

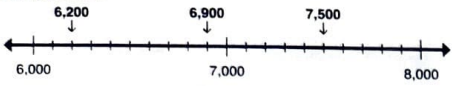
6 Fill in the missing numbers to complete the number patterns.

3,351	**3,361**	3,371	**3,381**	3,391	3,401	**3,411**
		4,371			3,301	
		5,371			**3,201**	
6,369	6,370	**6,371**	**6,372**		**3,101**	
6,359		**7,371**			3,001	
6,349		8,371			2,901	
6,339			2,781	2,791	**2,801**	2,811
6,329						2,911
6,319	**6,309**	6,299	**6,289**			**3,011**
6,309						**3,111**

Exercise 8

Basics

1 Fill in the blanks.



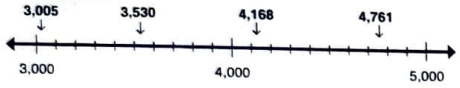
(a) 6,200 is 6,000 when rounded to the nearest ___thousand___.

(b) 6,900 is _7,000_ when rounded to the nearest thousand.

(c) 7,500 is halfway between 7,000 and _8,000_.

7,500 is _8,000_ when rounded to the nearest thousand.

2 Fill in the blanks.



(a) 3,005 is _3,000_ when rounded to the nearest thousand.

(b) 3,530 is _4,000_ when rounded to the nearest thousand.

(c) 4,168 is _4,000_ when rounded to the nearest thousand.

(d) 4,761 is _5,000_ when rounded to the nearest thousand.

(e) Look at the digit in the ___hundreds___ place when rounding to the nearest thousand.

Practice

3 Draw arrows to show the location or approximate location of each number on the number line.
Then round each number to the nearest thousand.

(a) 7,500 [8,000] (b) 8,350 [8,000]

(c) 8,980 [9,000] (d) 9,672 [10,000]

4 The largest meteorite crater in the U.S. is 4,150 feet across. Round this number to the nearest thousand. [4,000]

5 Round each number to the nearest thousand.

(a) 1,920 [2,000] (b) 6,500 [7,000]

(c) 2,499 [2,000] (d) 8,052 [8,000]

Challenge

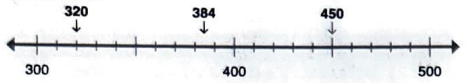
6 What is the greatest whole number that is 5,000 when rounded to the nearest thousand? [5,499]

7 What is the least whole number that is 5,000 when rounded to the nearest thousand? [4,500]

Exercise 9

Basics

1 Fill in the blanks.



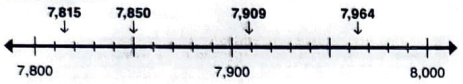
(a) 320 is 300 when rounded to the nearest ____hundred____.

(b) 384 is ___400___ when rounded to the nearest hundred.

(c) 450 is halfway between 400 and ___500___.

450 is ___500___ when rounded to the nearest hundred.

2 Fill in the blanks.



(a) 7,815 is ___7,800___ when rounded to the nearest hundred.

(b) 7,850 is ___7,900___ when rounded to the nearest hundred.

(c) 7,909 is ___7,900___ when rounded to the nearest hundred.

(d) 7,964 is ___8,000___ when rounded to the nearest hundred.

(e) Look at the digit in the ____tens____ place when rounding to the nearest hundred.

Practice

3 Round each number to the nearest hundred.

(a) 739 [700]

(b) 4,250 [4,300]

(c) 9,225 [9,200]

(d) 89 [100]

(e) 7,956 [8,000]

(f) 9,999 [10,000]

4 Round 6,565 to...

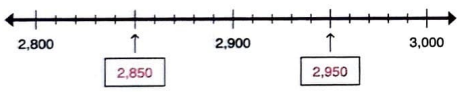
(a) The nearest thousand. [7,000]

(b) The nearest hundred. [6,600]

5 The table shows the heights of some mountains.
Round each number to the nearest thousand and hundred.

Mountain	Meters	Thousand	Hundred
Mount Everest	8,848	9,000	8,800
Cathedral Peak	3,326	3,000	3,300
Mount Stuart	2,869	3,000	2,900
Mount St. Helens	2,550	3,000	2,600
Sunset Peak	869	1,000	900

6 (a) Write the number that is halfway between 2,800 and 2,900, and the number that is halfway between 2,900 and 3,000.



(b) What is the least whole number that is 2,900 when rounded to the nearest hundred? [2,850]

(c) What is the greatest whole number that is 2,900 when rounded to the nearest hundred? [2,949]

Challenge

7 A number between 280 and 380, when rounded to the nearest hundred, is 45 less than the original number. What number is the original number? [345]

The number would have to round down to be less.
245 is not within the range, so it has to be 345.

Exercise 10

Basics

1 Fill in the blanks.

(a) 484 is 480 when rounded to the nearest ___ten___.

(b) 486 is ___490___ when rounded to the nearest ten.

(c) 495 is halfway between 490 and ___500___.

495 is ___500___ when rounded to the nearest ten.

2 Fill in the blanks.

(a) 6,802 is ___6,800___ when rounded to the nearest ten.

(b) 6,805 is ___6,810___ when rounded to the nearest ten.

(c) 6,813 is ___6,810___ when rounded to the nearest ten.

(d) 6,817 is ___6,820___ when rounded to the nearest ten.

(e) Look at the digit in the ___ones___ place when rounding to the nearest ten.

Practice

3 Round each number to the nearest ten.

(a) 89	90	(b) 32	30
(c) 739	740	(d) 255	260
(e) 6,024	6,020	(f) 7,655	7,660
(g) 1,409	1,410	(h) 4,110	4,110
(i) 3,004	3,000	(j) 9,999	10,000

4 List the whole numbers that are 80 when rounded to the nearest ten.

75, 76, 77, 78, 79, 80, 81, 82, 83, 84

5 List the whole numbers that are 9,420 when rounded to the nearest ten.

9,415, 9,416, 9,417, 9,418, 9,419, 9,420

9,421, 9,422, 9,423, 9,424

6 A newborn baby blue whale weighs 2,865 pounds.
Round this number to...

(a) The nearest thousand. 3,000

(b) The nearest hundred. 2,900

(c) The nearest ten. 2,870

7 A number is halfway between 8,420 and 8,430.
Round this number to...

(a) The nearest thousand. 8,000

(b) The nearest hundred. 8,400

(c) The nearest ten. 8,430

Challenge

8 List the whole numbers that are 550 when rounded to the nearest ten and 500 when rounded to the nearest hundred.
545, 546, 547, 548, 549

9 A 2-digit whole number, when rounded to the nearest hundred, is 24 more than the original number.
What is the is the original number?

76 A 2-digit number is less than 100.
24 less than 100 is 76.

Exercise 11

Check

1 Decide whether a rounded number or an exact number is likely in each of the following.
Write a check mark in the table for your answer. Answers may vary.

	Rounded	Exact
The number of children in a park.	✓	
The number of students on the bus after a field trip.		✓
The number of books owned by a library.		✓
The number of books in a house.	✓	
The number of bees in a beehive.	✓	
The number of flowers in a field.	✓	
The number of stitches in a knitting pattern.		✓
The number of points scored in a game.		✓
The number of beads in a jar.	✓	

2 Complete the number patterns.

(a) 3,852, **3,952**, 4,052, 4,152, **4,252**, **4,352**

(b) **8,403**, 8,393, **8,383**, 8,373, **8,363**, 8,353

3 Write + or − in the ◯ and write the missing numbers.

(a) 7,432 (+) 10 = 7,442 (b) 6,492 (−) 1,000 = 5,492

(c) 8,219 (+) 100 = 8,319 (d) 2,605 (+) 1,000 = 3,605

(e) 1,801 (−) 10 = 1,791 (f) 8,012 (−) 100 = 7,912

4 The table shows the weight of some newborn animals at the zoo in grams.
Round each number to the nearest thousand, hundred, and ten.

Animal	Grams	Thousands	Hundreds	Tens
African elephant	9,942	10,000	9,900	9,940
Giraffe	5,850	6,000	5,900	5,850
Zebra	4,148	4,000	4,100	4,150
Mountain goat	3,419	3,000	3,400	3,420
Gorilla	2,505	3,000	2,500	2,510
Sea otter	1,985	2,000	2,000	1,990
Leopard	1,142	1,000	1,100	1,140
Brown bear	945	1,000	900	950

5 (a) Round 6,484 to the nearest thousand. 6,000

(b) Round 6,484 to the nearest ten. 6,480

Then, round that new number to the nearest hundred. 6,500

Then, round that new number to the nearest thousand. 7,000

(c) Compare the final rounded numbers in (a) and (b).
What is the difference between them?

The number rounded in steps is 1,000 more.

6 Use the following numbers to create the number patterns based on the given rule.

3,125 5,919 6,127 5,809

2,125 4,125 6,119 6,123

5,799 6,019 6,121 6,219

6,125 5,789 5,819 5,125

(a) Subtract 10 to get the next number.

5,829, 5,819, 5,809, 5,799, 5,789

(b) Add 100 to get the next number. Look for numbers where the tens and ones are the same.

5,819, 5,919, 6,019, 6,119, 6,219

(c) Subtract 1,000 to get the next number. Look for numbers where only the thousands are different.

6,125, 5,125, 4,125, 3,125, 2,125

(d) Add 2 to get the next number. Start by looking for numbers where the thousands are the same.

6,119, 6,121, 6,123, 6,125, 6,127

Challenge

7 Look carefully at each digit to determine the pattern.
Complete the pattern.
The numbers increase by 1,000 and by 100.

(a) **3,152**, **4,252**, **5,352**, 6,452, 7,552, 8,652

(b) **8,403**, **8,313**, **8,223**, 8,133, 8,043, 7,953

The numbers decrease by 100 and increase by 10.

8 A number rounded to the nearest ten, hundred, or thousand is 5,000.

(a) What is the least possible number it could be? 4,995

(b) What is the greatest possible number it could be? 5,004

9 A number is rounded first to the nearest ten, then that new number is rounded to the nearest hundred, then that new number, when rounded to the nearest thousand, is 5,000.

(a) What is the least possible number it could be? 4,445

(b) What is the greatest possible number it could be? 5,444

Chapter 2 Addition and Subtraction — Part 1

Exercise 1

Basics

1 (a) Add 6 to 78 by making the next ten.

78 + 6 = 80 + 4 = 84 (2, 4)

(b) Add 48 and 36 by adding tens and then ones.

48 → (+ 30) 78 → (+ 6) 84

2 Add 27 and 45 by making the next ten.

27 + 45 = 30 + 42 = 72 (3, 42)

3 Add 54 and 38 by adding 40 and subtracting 2.

54 → (+ 40) 94 → (− 2) 92

Practice

4 (a) 49 + 6 = 55 (1, 5)

(b) 35 + 7 = 42 (5, 2)

(c) 46 + 5 = 51 (4, 1)

(d) 28 + 4 = 32 (2, 2)

(e) 63 + 20 = 83

(f) 28 + 70 = 98

5 (a) 67 → (+ 20) 87 → (+ 7) 94

67 + 27 = 94

(b) 23 → (+ 50) 73 → (+ 8) 81

23 + 58 = 81

(c) 16 → (+ 40) 56 → (+ 5) 61

16 + 45 = 61

6 (a) 57 + 3 = 60

(b) 86 + 4 = 90

(c) 23 + 7 = 30

(d) 74 + 6 = 80

(e) 48 − 2 = 46

(f) 97 − 4 = 93

7 (a) 38 + 33 = 71 (2, 31)

(b) 17 + 49 = 66 (3, 46)

(c) 67 + 23 = 90 (3, 20)

(d) 55 + 18 = 73 (5, 13)

(e) 23 + 68 = 91 (21, 2)

8 Find the value.

(a) 36 + 59

36 → (+ 60) 96 → (− 1) 95

(b) 23 + 48

23 → (+ 50) 73 → (− 2) 71

(c) 65 + 17

65 → (+ 20) 85 → (− 3) 82

Challenge

9 Use mental calculation to find the value.

(a) 67 + 85 = 152

(b) 58 + 74 = 132

(c) 77 + 89 = 166

(d) 46 + 88 = 134

(e) 86 + 57 = 143

(f) 75 + 59 = 134

Exercise 2

Basics

1 (a) Write the missing numbers.

780 + 60 = 800 + 40 = 840
(20, 40)

(b) Add 480 and 360 by adding hundreds and then tens.

480 —(+ 300)→ 780 —(+ 60)→ 840

2 Add 270 and 450 by making the next hundred.

270 + 450 = 300 + 420 = 720
(30, 420)

3 Add 540 and 380 by adding 400 and subtracting 20.

540 —(+ 400)→ 940 —(− 20)→ 920

4 Since 34 + 27 = 61, 34 tens + 27 tens = 61 tens.

Practice

5 Add.

390 + 250 = 640 **N**	220 + 480 = 700 **T**	570 + 360 = 930 **I**
670 + 150 = 820 **E**	750 + 160 = 910 **A**	520 + 290 = 810 **N**
480 + 390 = 870 **O**	370 + 170 = 540 **T**	240 + 280 = 520 **R**
250 + 480 = 730 **P**	660 + 260 = 920 **U**	380 + 380 = 760 **G**

Each person has a different finger print.
What other type of print is different in each person?
Write the letters to match the answers above to find out.

A		T	O	N	G	U	E
910	830	540	870	640	760	920	820

	P	R	I	N	T		
600	730	520	930	810	700	750	780

Exercise 3

Basics

1 (a) Subtract 6 from 43 by subtracting 6 from 40.

$43 - 6 = 3 + \boxed{34} = \boxed{37}$

(3, 40)

(b) Subtract 46 from 83 by subtracting tens and then ones.

$83 \xrightarrow{-40} \boxed{43} \xrightarrow{-6} \boxed{37}$

2 Subtract 27 from 75 by subtracting 27 from 30.

$75 - 27 = 45 + \boxed{3} = \boxed{48}$

(45, 30)

3 Subtract 28 from 86 by subtracting 30 and adding 2.

$86 \xrightarrow{-30} \boxed{56} \xrightarrow{+2} \boxed{58}$

Practice

4 (a) $34 - 7 = \boxed{27}$ (4, 30)

(b) $34 - 7 = \boxed{27}$ (4, 3)

(c) $82 - 6 = \boxed{76}$

(d) $22 - 5 = \boxed{17}$

(e) $63 - 20 = \boxed{43}$

(f) $78 - 30 = \boxed{48}$

5 (a) $64 \xrightarrow{-20} \boxed{44} \xrightarrow{-6} \boxed{38}$

$64 - 26 = \boxed{38}$

(b) $73 \xrightarrow{-50} \boxed{23} \xrightarrow{-8} \boxed{15}$

$73 - 58 = \boxed{15}$

(c) $82 \xrightarrow{-50} \boxed{32} \xrightarrow{-4} \boxed{28}$

$82 - 54 = \boxed{28}$

6 (a) $80 - 72 = \boxed{8}$

(b) $90 - 88 = \boxed{2}$

(c) $40 - 31 = \boxed{9}$

(d) $30 - 27 = \boxed{3}$

(e) $63 = 70 - \boxed{7}$

(f) $45 = 50 - \boxed{5}$

(g) $82 - 60 = \boxed{22}$

(h) $38 - \boxed{30} = 8$

7 Solve by subtracting from tens.

(a) $73 - 35 = \boxed{38}$ (33, 40)

(b) $64 - 48 = \boxed{16}$ (14, 50)

(c) $75 - 36 = \boxed{39}$ (35, 40)

(d) $81 - 67 = \boxed{14}$ (11, 70)

(e) $94 - 27 = \boxed{67}$ (64, 30)

(f) $21 - 15 = \boxed{6}$ (1, 20)

8 Find the value.

(a) $82 - 59$

$82 \xrightarrow{-60} \boxed{22} \xrightarrow{+1} \boxed{23}$

(b) $75 - 48$

$75 \xrightarrow{-50} \boxed{25} \xrightarrow{+2} \boxed{27}$

(c) $66 - 17 = \boxed{49}$

$66 \xrightarrow{-20} \boxed{46} \xrightarrow{+3} \boxed{49}$

Challenge

9 Use mental calculation to find the value.

(a) $374 - 59 = \boxed{315}$

(b) $483 - 28 = \boxed{455}$

(c) $365 - 28 = \boxed{337}$

(d) $290 - 77 = \boxed{213}$

(e) $887 - 48 = \boxed{839}$

(f) $782 - 59 = \boxed{723}$

Exercise 4 • pages 47–48

Exercise 4

Basics

1 (a) Subtract 60 from 430 by subtracting 60 from 400.

430 − 60 = 30 + 340 = 370

30 400

(b) Subtract 460 from 830 by subtracting hundreds and then tens.

830 −400→ 430 −60→ 370

2 Subtract 270 from 750 by subtracting 270 from 300.

750 − 270 = 450 + 30 = 480

450 300

3 Subtract 280 from 860 by subtracting 300 and adding 20.

860 −300→ 560 +20→ 580

4 Since 82 − 27 = 55, 82 tens − 27 tens = 55 tens.

Practice

5 Subtract.

850 − 280 = 570 L	720 − 480 = 240 I	960 − 370 = 590 O
650 − 170 = 480 C	550 − 460 = 90 N	920 − 690 = 230 H
860 − 390 = 470 E	340 − 170 = 170 V	540 − 380 = 160 P
730 − 480 = 250 I	620 − 260 = 360 Z	710 − 380 = 330 L

What are some other words for ZERO?
Write the letters to match the answers above to find out.

Z	I	L	C	H		N	I	L
360	250	330	480	230	150	90	240	570

L	O	V	E		Z	I	P	
330	590	170	470	80	360	250	160	340

Exercise 5 • pages 49–50

Exercise 5

Basics

1 100 = 9 tens + 10 ones

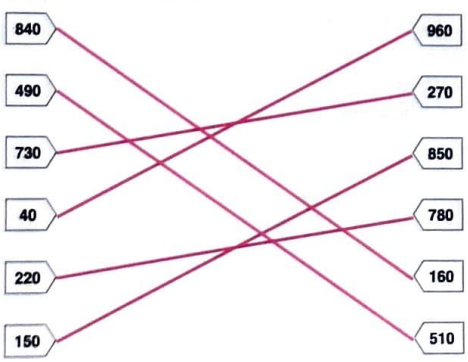
1,000 = 9 hundreds + 10 tens

2 (a) 50 + 40 = 90
7 + 3 = 10
57 + 43 = 100

(b) 500 + 400 = 900
70 + 30 = 100
570 + 430 = 1,000

Practice

3 Match numbers that make 1,000.



4 (a) 82 + 18 = 100
(b) 630 + 370 = 1,000
(c) 220 + 780 = 1,000
(d) 34 + 66 = 100
(e) 30 + 970 = 1,000
(f) 8 + 92 = 100
(g) 56 + 44 = 100
(h) 170 + 830 = 1,000

5 (a) 100 − 69 = 31
(b) 1,000 − 490 = 510
(c) 1,000 − 520 = 480
(d) 1,000 − 70 = 930
(e) 100 − 18 = 82
(f) 1,000 − 250 = 750
(g) 100 − 42 = 58
(h) 1,000 − 830 = 170

Challenge

6 1,000 = 9 hundreds + 9 tens + 10 ones

7 Use mental calculation to find the value.

(a) 637 + 363 = 1,000
(b) 142 + 858 = 1,000
(c) 1,000 − 42 = 958
(d) 1,000 − 7 = 993
(e) 1,000 − 333 = 667
(f) 1,000 − 307 = 693

Exercise 6 • pages 51–52

Exercise 6

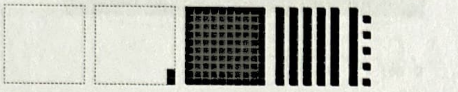
Basics

1

255 + 198 = 253 + 200 = 453

(255 → 253, 2)

255 —(+200)→ 455 —(−2)→ 453



365 − 198 = 165 + 2 = 167

(365 → 165, 200)

365 —(−200)→ 165 —(+2)→ 167

2 Find the value of 584 + 297.

584 —(+300)→ 884 —(−3)→ 881

3 Find the value of 937 − 599.

937 —(−600)→ 337 —(+1)→ 338

Practice

4 (a) 174 + 98 = 272 (b) 174 − 98 = 76

(c) 532 − 397 = 135 (d) 532 + 397 = 929

(e) 498 + 299 = 797 (f) 498 − 299 = 199

(g) 555 + 96 = 651 (h) 555 − 96 = 459

(i) 343 − 299 = 44 (j) 343 + 299 = 642

5 (a) 397 + 425 = 822 (b) 954 − 497 = 457

(c) 635 − 499 = 136 (d) 625 + 298 = 923

(e) 328 + 98 = 426 (f) 832 − 99 = 733

Challenge

6 Use mental calculation to find the value.

(a) 999 + 99 + 9 = 1,107 (b) 97 + 998 + 6 = 1,101

(c) 64 + 39 + 99 = 202 (d) 598 + 9 + 59 = 666

(e) 1,782 + 990 = 2,772 (f) 7,897 + 960 = 8,857

Exercise 7 • pages 53–54

Exercise 7

Check

1 Add or subtract.

450 + 170 = 620	861 − 98 = 763	630 − 60 = 570
168 + 7 = 175	800 − 47 = 753	370 + 580 = 950
760 − 490 = 270	290 + 40 = 330	1,000 − 460 = 540
432 + 97 = 529	342 + 427 = 769	400 − 32 = 368
868 − 347 = 521	332 − 8 = 324	614 + 99 = 713
34 + 66 = 100	825 − 96 = 729	1,000 − 940 = 60

If you add the two digits of this number together, then double that answer, you get the number again.
What number is it?
Color the boxes that match the answers you found above to find out.

80	200	300	215	735	327	450
314	529	519	620	540	324	890
610	713	940	950	42	763	300
869	270	925	100	753	521	712
42	570	70	769	773	60	768
629	729	260	368	175	330	507
421	370	199	201	303	898	999

2 Write >, <, or = in the ◯.

36 tens + 42 tens (=) 350 ones + 430 ones

350 + 640 (>) 120 + 740

580 − 120 (<) 320 + 190

530 + 150 (>) 930 − 270

670 + 350 (=) 650 + 370

2,000 − 1,420 (<) 1,000 − 240

347 + 98 (=) 543 − 98

Challenge

3 Put the numbers 30, 50, 70, 90, 110, 130, 150, 170, and 190 in the magic square so that the sum of the numbers in any row, column, or diagonal is 330.

170	30	130
70	110	150
90	190	50

Hint: Start with the middle number when the numbers are listed in order in the middle square.

Exercise 8

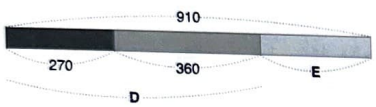
Basics

1 Find the unknown values.

A 120 − 70 = 50

B 435 − 198 = 237

C 435 + 198 = 633



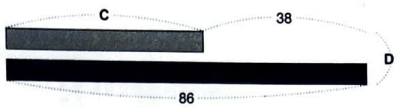
D 270 + 360 = 630

E 910 − 630 = 280

2 Find the unknown values.

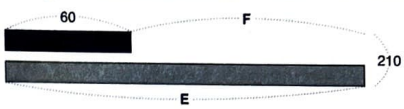
A 340 + 160 = 500

B 340 + 500 = 840



C 86 − 38 = 48

D 86 + 48 = 134

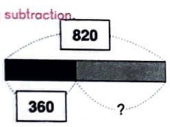


E 210 − 60 = 150

F 150 − 60 = 90

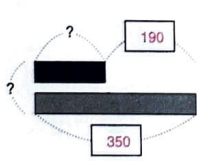
Equations may vary.
e.g. students can initially write 360 + ? = 820 before solving using subtraction.

3 The sum of two numbers is 820.
One number is 360.
Find the other number.



820 − 360 = 460

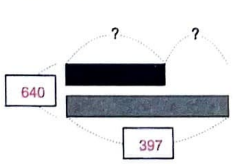
4 The difference between two numbers is 190.
The greater number is 350.



(a) Find the other number.
350 − 190 = 160

(b) Find the sum of the two numbers.
160 + 350 = 510

5 The sum of two numbers is 640.
One number is 397.



(a) What is the other number?
640 − 397 = 243

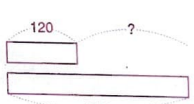
(b) What is the difference between the two numbers?
397 − 243 = 154

Practice

6 Draw a bar model for each problem. Models and equations may vary throughout.
Find the unknown number.

(a) 630 is ? more than 120.

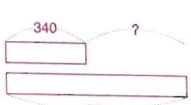
630 − 120 = 510



Students may initially write missing number equations, such as 630 = 120 + ?. They can then write an equation to show how they solved it.

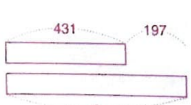
(b) ? is the difference between 870 and 340.

870 − 340 = 530



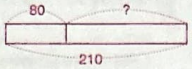
(c) 197 less than ? is 431.

431 + 197 = 628



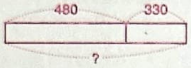
(d) The sum of 80 and ? is 210.

210 − 80 = 130



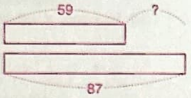
(e) After taking away 330 from ?, 480 is left.

480 + 330 = 810



(f) ? more than 59 is 87.

87 − 59 = 28



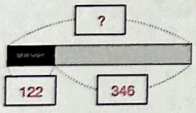
Exercise 9 • pages 60–61

Exercise 9

Basics

1 Label the bar models with the information given in the problem. Write an expression and then solve.

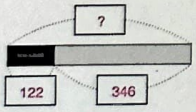
(a) Pablo sold 122 tickets in the morning and 346 tickets in the afternoon. How many tickets did he sell that day?



122 + 346 = 468

He sold 468 tickets that day.

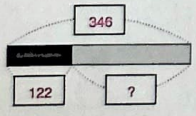
(b) After selling 346 tickets, Katherine had 122 tickets left. How many tickets did she have at first?



122 + 346 = 468

She had 468 tickets at first.

(c) Wyatt had 346 tickets. After selling some tickets, he had 122 tickets left. How many tickets did he sell?



346 − 122 = 224

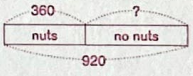
He sold 224 tickets.

Practice

Draw bar models and solve.

Models may vary.
Exact wording in answer sentences may vary.
Methods may vary.

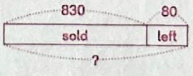
2 A bakery has 920 chocolate chip cookies to sell. 360 of them have nuts, and the rest do not. How many cookies did not have nuts?



920 − 360 = 560

560 cookies did not have nuts.

3 The bakery sold 830 pastries one day. At the end of the day, it had 80 pastries left. How many pastries did it have at the start of the day?



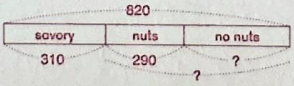
830 + 80 = 910

The bakery had 910 pastries at the start of the day.

4 The bakery sold 820 twists. 310 of them were savory twists, and the rest were cinnamon twists. Of the cinnamon twists, 290 had nuts and the rest did not.

(a) How many cinnamon twists did the bakery sell?

(b) How many of cinnamon twists did not have nuts?



820 − 310 = 510

The bakery sold 510 cinnamon twists.

510 − 290 = 220

220 cinnamon twists did not have nuts.

Exercise 10

Basics

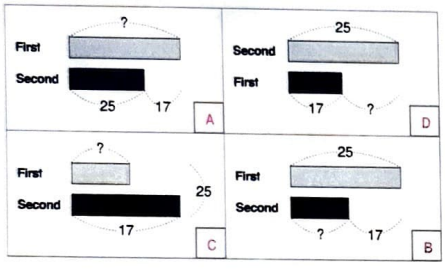
1 Which bar model goes with each problem?

A Kona scored 25 points on the second game.
She scored 17 fewer points on the second game than the first.
What was her score for the first game?

B Kona scored 17 fewer points on the second game than the first game.
She scored 25 points on the first game.
How much did she score on the second game?

C Kona scored 25 points on both games.
She scored 17 points on the second game.
What was her score for the first game?

D Kona scored 17 points on the first game.
She scored 25 points on the second game.
How many fewer points did she score on the first game than the second game?

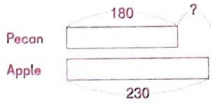


Practice

Draw bar models and solve the problems.

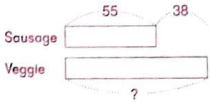
2 A bakery sold 230 apple tarts.
It sold 180 pecan tarts.
How many more apple tarts than pecan tarts did it sell?

230 − 180 = 50
It sold 50 more apple tarts than pecan tarts.



3 The bakery sold 38 fewer sausage crepes than veggie crepes.
It sold 55 sausage crepes.
How many veggie crepes did it sell?

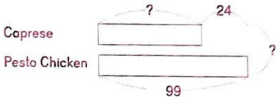
55 + 38 = 93
It sold 93 veggie crepes.



4 The bakery sold 99 pesto chicken sandwiches.
It sold 24 more pesto chicken sandwiches than caprese sandwiches.

(a) How many caprese sandwiches did the bakery sell?

(b) How many of both kinds of sandwiches did it sell in all?



99 − 24 = 75
The bakery sold 75 caprese sandwiches.

99 + 75 = 174
The bakery sold 174 sandwiches altogether.

Exercise 11

Basics

1 A tree farm planted 380 spruce seedlings.
It planted 150 more fir seedlings than spruce seedlings.
How many seedlings did it plant in all?

(a) Label the bar model below with the information given.
Mark the quantity that needs to be found with a question mark.

(b) What needs to be found first?
The number of fir seedlings planted.

(c) Write an expression for the first step and solve it.
380 + 150 = 530

(d) Write an expression for the second step and solve it.
380 + 530 = 910

(e) Write a sentence with the answer to the problem.
The tree farm planted a total of 910 seedlings altogether.

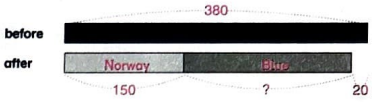
Practice

Label the bar models with the information in the problems and solve the problems.

2 A chain saw, pruner, and tree shovel cost $240 altogether.
The pruner costs $60 and the shovel costs $50.
How much does the chain saw cost?

$60 + $50 = $110
$240 − $110 = $130
The chain saw cost $130.

3 Of the 380 spruce trees, some were Norway Spruce and the rest were Blue Spruce.
After some of the seedlings died, there were 20 fewer spruce trees.
There were 150 Norway Spruce left.
How many Blue Spruce were left?

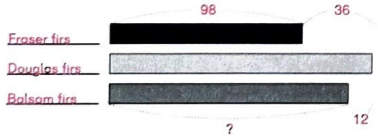


380 − 20 = 360
360 − 150 = 210
There were 210 Blue Spruce left.

4 The tree lot had 98 Fraser firs for sale.
It had 36 more Douglas firs than Fraser firs for sale.
It had 12 fewer Balsam firs than Douglas firs for sale.

(a) How many Balsam firs did it have for sale?

(b) How many firs did it have for sale in all?

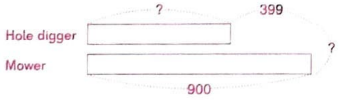


98 + 36 = 134
134 − 12 = 122
It had 122 Balsam firs for sale.

98 + 134 + 122 = 354
It had 354 firs for sale in all.

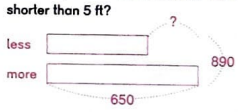
Draw bar models and solve the problems.

5 A tractor with a hole digger cost $399 less than a mower tractor.
The mower tractor cost $900.
How much did the two tractors cost altogether?



$900 − $399 = $501
$501 + $900 = $1,401
The two tractors cost $1,401 altogether.

6 At the time for harvesting the trees, out of 890 trees,
650 were more than 5 ft tall.
The rest were less than 5 ft tall.
How many more trees were taller than 5 ft than were shorter than 5 ft?

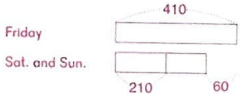


890 − 650 = 240
650 − 240 = 410

There were 410 more trees taller than 5 ft than trees shorter than 5 ft.

Challenge

7 The Friday after Thanksgiving the tree farm sold 410 trees.
That day it sold 60 more trees than the next two days combined.
The Saturday after Thanksgiving it sold 210 trees.
How many more trees did it sell on the Saturday after Thanksgiving than on the Sunday after Thanksgiving?

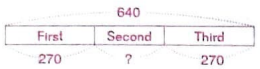


410 − 210 − 60 = 140
On Sunday, they sold 140 trees.
210 − 140 = 70
They sold 70 more trees on Saturday than on Sunday.

Exercise 12

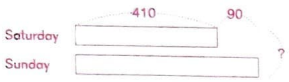
Check

1. Jett scored 640 points in a game.
The game had 3 levels.
He scored the same score, 270, for the first and third level of the game.
How much did he score for the second level of the game?



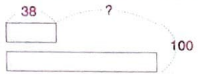
640 − 270 − 270 = 100
He scored 100 points on the second level.

2. At a fair, 410 balloons were sold on Saturday.
90 more balloons were sold on Sunday than Saturday.
How many balloons were sold that weekend?



410 + 90 = 500
500 + 410 = 910
910 balloons were sold that weekend.

3. Ada saved $100 over a period of 2 months.
The first month she saved $38.
How much more money did she save the second month than the first month?

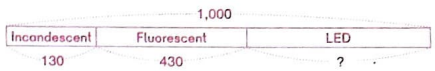


$100 − $38 = $62
$62 − $38 = $24
She saved $24 more the second month than the first month.

4. A store has 1,000 light bulbs.
130 of them are incandescent bulbs.
430 of them are fluorescent bulbs.
The rest are LED bulbs.

(a) How many of the bulbs are LED bulbs?

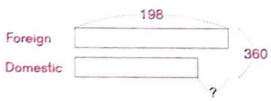
(b) How many fewer LED bulbs are there than the other two types of bulbs?



1,000 − 130 − 430 = 440
440 of the bulbs are LED bulbs.

130 + 430 = 560
560 − 440 = 120
There are 120 fewer LED bulbs than the other two kinds.

5. Santiago has 360 coins in his coin collection.
198 of them are foreign coins and the rest are domestic coins.
How many fewer domestic coins does he have than foreign coins?

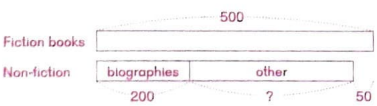


360 − 198 = 162
198 − 162 = 36
He has 36 fewer domestic coins than foreign coins.

6. For a book sale, the books were sorted into non-fiction and fiction.
The non-fiction books were further sorted into biographies and other.
There were 500 fiction books and 200 biographies.
There were 50 fewer non-fiction than fiction books.

(a) How many non-fiction books that were not biographies were there?

(b) How many books were there in all?



500 − 200 − 50 = 250
There were 250 non-fiction books that are not biographies.

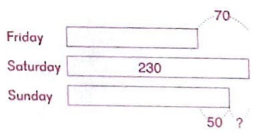
500 + 200 + 250 = 950
There were 950 books in all.

7. At the book sale, 230 books were sold on Saturday.
70 fewer books were sold on Friday than on Saturday.
50 more books were sold on Sunday than on Friday.

(a) How many more books were sold on Saturday than on Sunday?

(b) How books were sold on Sunday?

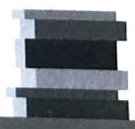
(c) How many books were sold in all for the three days?



70 − 50 = 20
20 more books were sold on Saturday than on Sunday.

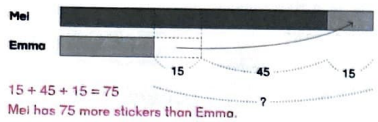
230 − 20 = 210
210 books were sold on Sunday.

Friday: 230 − 70 = 160
160 + 230 + 210 = 600
600 books were sold in all.



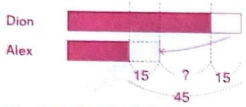
Challenge

8 **Mei has 45 more stickers than Emma.**
After Emma gives 15 stickers to Mei, how many more stickers does Mei have than Emma?



15 + 45 + 15 = 75
Mei has 75 more stickers than Emma.

9 **Dion has 45 more stickers than Alex.**
After Dion gives 15 stickers to Alex,
how many more stickers does Dion have than Alex?



45 − 15 − 15 = 15; 15 stickers
Dion now has 15 more stickers than Alex.

10 **Sofia has 45 more stickers than Dion.**
After both Sofia and Dion get 15 more stickers,
how many more stickers does Sofia have than Dion?

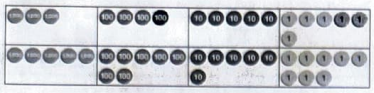
Because both numbers increase by 15,
the difference between them remains the same.
Sofia has 45 more stickers than Dion.

Chapter 3 Addition and Subtraction — Part 2

Exercise 1

Basics

1 Find the sum of 3,456 and 5,768.
Start with the ones.



	3,	4	5	6
+	5,	7	6	8
	9,	2	2	4

In which places did you need to regroup?
ones, tens, hundreds

2 Add.

	1,	7	5	6
+			7	7
	1,	8	3	3

	8,	3	3	9
+		9	3	5
	9,	2	7	4

	4,	6	1	4
+	3,	5	6	7
	8,	1	8	1

Practice

3 Add.

7,625 + 1,835

	7,	6	2	5
+	1,	8	3	5
	9,	4	6	0

E

1,894 + 4,292

	1,	8	9	4
+	4,	2	9	2
	6,	1	8	6

S

3,875 + 3,249

	3,	8	7	5
+	3,	2	4	9
	7,	1	2	4

T

7,777 + 444

	7,	7	7	7
+		4	4	4
	8,	2	2	1

Y

78 + 6,159

	6,	1	5	9
+			7	8
	6,	2	3	7

Y

3,061 + 4,948

	3,	0	6	1
+	4,	9	4	8
	8,	0	0	9

E

683 + 8,279

	8,	2	7	9
+		6	8	3
	8,	9	6	2

D

9,344 + 466

	9,	3	4	4
+		4	6	6
	9,	8	1	0

R

3,076 + 3,824

	3,	0	7	6
+	3,	8	2	4
	6,	9	0	0

A

Riddle: What is something you will never see again?
Write the letters that match the answers above to find out.

	Y	E	S	T	E	R	D	A	Y	
8,762	8,221	8,009	6,186	7,124	9,460	9,810	8,962	6,900	6,237	7,224

4 Aki used 1,458 beads for one art project, and 1,905 beads for another art project.
How many beads did she use in all?

1,458
+ 1,905
3,363 3,363 beads

5 Write the missing digits.

(a)

	4,	5	5	4
+	2,	7	7	2
	7,	3	2	6

(b)

	2,	5	8	6
+	1,	4	1	4
	4,	0	0	0

6 Add.

(a)

	6,	3	7	8
	1,	5	2	6
+		7	4	5
	8,	6	4	9

(b)

	5,	5	5	5
		5	5	5
			5	5
+				5
	6,	1	7	0

Challenge

7 Put either 8 or + in each box to make the equation true.
There will be 5 numbers added together.

8	8	8	+	8	8	+	8	+	8	+	8	= 1,000

Exercise 2

Basics

1 Subtract 3,397 from 5,483.
Start with the ones.

	5,	4	8	3
−	3,	3	9	7
	2,	0	8	6

From which places did you need to regroup in order to subtract?
tens, hundreds

2 Subtract.

	9,	7	3	5
−		6	5	7
	9,	0	7	8

	7,	6	3	0
−	1,	8	5	3
	5,	7	7	7

	1,	2	8	9
−		7	8	7
		5	0	2

Practice

3 Subtract.

4,260 − 335	8,064 − 3,758	7,123 − 1,456
4, 2 6 0 − 3 3 5 3, 9 2 5 **N**	8, 0 6 4 − 3, 7 5 8 4, 3 0 6 **I**	7, 1 2 3 − 1, 4 5 6 5, 6 6 7 **S**
4,444 − 888	**8,230 − 7,765**	**6,912 − 54**
4, 4 4 4 − 8 8 8 3, 5 5 6 **F**	8, 2 3 0 − 7, 7 6 5 4 6 5 **O**	6, 9 1 2 − 5 4 6, 8 5 8 **A**
5,307 − 1,226	**3,183 − 2,346**	**7,290 − 5,191**
5, 3 0 7 − 1, 2 2 6 4, 0 8 1 **R**	3, 1 8 3 − 2, 3 4 6 8 3 7 **C**	7, 2 9 0 − 5, 1 9 1 2, 0 9 9 **S**

In what city was the fortune cookie invented?
Write the letters that match the answers above to find out.

S	A	N		F	R	A	N	C	I	S	C	O
5,667	6,858	3,925	5,776	3,556	4,081	6,858	3,925	837	4,306	2,099	837	465

4 Aki had 8,420 beads to use in all.
She has already used 3,363 beads.
How many does she have left?

8,420
− 3,363
5,057 5,057 beads

5 Write the missing digits.

(a)

	4,	1	7	3
−		2	6	7
	3,	9	0	6

(b)

	5,	0	7	0
−	3,	6	4	2
	1,	4	2	8

6 Complete the number pattern.

3,279	**2,823**	**2,367**	1,911	**1,455**	999

Numbers decrease by 456.

Challenge

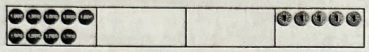
7 Find the missing number without calculating 4,388 − 1,672.

4,388 − 1,672 = 5,488 − 2,772

Exercise 3

Basics

1 Subtract 3,397 from 9,005.
Start with the ones.



$$\begin{array}{r} 9,005 \\ -\ 3,397 \\ \hline 5,608 \end{array}$$

Which place did you start regrouping from first in order to subtract ones?
thousands

2 Subtract.

9,705 − 657 = 9,048	1,002 − 857 = 145	7,009 − 4,087 = 2,922

Practice

3 Subtract.

4,007 − 335 = 3,672	8,004 − 3,758 = 4,246	7,000 − 1,456 = 5,544
1,009 − 888 = 121	8,000 − 3,765 = 4,235	6,002 − 56 = 5,946
5,017 − 1,996 = 3,021	3,103 − 2,346 = 757	7,090 − 5,191 = 1,899

What is the only number where the number word has the same number of letters as the number's value?
Color the boxes that match the answers to find out.

3,662	4,235	657	756	5,445	576
899	3,672	4,236	4,672	6,857	1,988
6,544	5,946	221	757	9,865	4,325
3,921	3,021	1,899	121	4,246	4,035
988	4,021	1,757	5,544	3,211	672

4 Aki has 5,057 beads after the last two art projects.
She did a third art project and now has 398 beads left.
How many did she use for her third art project?

$$\begin{array}{r} 5,057 \\ -\ 398 \\ \hline 4,659 \end{array}$$

4,659 beads

5 Complete the number pattern.

5,674	4,786	3,898	3,010	2,122	1,234

Numbers decrease by 888.

6 (a) 6,003 − 1,875 = 4,128

(b) 6,984 + 2,159 = 9,143

(c) 6,983 − 1,897 = 5,086

(d) 3,162 + 2,845 = 6,007

Challenge

7 Put the digits 0, 1, 2, 3, 4, and 5 in the boxes to make the difference between them 76.

$$\begin{array}{r} 401 \\ -\ 325 \\ \hline 76 \end{array} \quad \text{or} \quad \begin{array}{r} 230 \\ -\ 154 \\ \hline 76 \end{array}$$

8 The sum of two numbers is 400.
The digit in the hundreds place of one of the numbers is 1.
The digit in the hundreds place of the other number is 2.

$$2\square\square + 1\square\square = 400$$

(a) What would be the two numbers such that the difference between them is the greatest?

$$299 - 101 = 198$$

(b) What would be the two numbers such that the difference between them is the least?

$$201 - 199 = 2$$

Exercise 4 • pages 83–84

Exercise 4

Basics

1. Estimate the value by rounding each number to the place indicated.

642 − 87
nearest hundred: 600 − nearest ten: 90 = 510

642 − 87
nearest ten: 640 − nearest ten: 90 = 550

Which estimate is closer to the actual value?

550

2. Estimate the value by rounding each number. Estimates may vary. Examples shown below.

785 + 84 → 800 + 80 = 880

674 − 439 → 670 − 440 = 230

895 + 756 → 900 + 700 = 1,600

904 − 628 → 900 − 600 = 300

Practice

3. Match.
Estimate rather than calculate.

784 + 562	766
838 − 72	91
584 + 47	631
458 − 367	616
972 − 356	1,346

4. Write > or < in the ◯.

(a) 807 − 489 (>) 300

(b) 485 + 679 (>) 400 + 700

5. Is 726 − 432 closer to 200 or 300?
300

6. Carlos has 498 foreign coins and 423 domestic coins in his collection.
Grace has 968 foreign coins and 75 domestic coins in her collection.
Who has more coins?
Students may realize they can use estimation to determine that Carlos has less than 1,000 coins and Grace has more than 1,000 co

Grace has more coins.

Exercise 5 • pages 85–86

Exercise 5

Basics

1. Estimate the value by rounding each number to the place indicated.

4,223 + 758
nearest thousand: 4,000 + nearest hundred: 800 = 4,800

4,223 + 758
nearest hundred: 4,200 + nearest hundred: 800 = 5,000

Which estimate is closer to the actual value?

5,000

2. Estimate the value by rounding each number. Estimates may vary. Examples shown below.

7,412 + 698 → 7,000 + 700 = 7,700

9,523 − 4,298 → 9,500 − 4,300 = 5,200

3,875 + 3,169 → 4,000 + 3,000 = 7,000

6,043 − 78 → 6,000 − 80 = 5,920

Practice

3. Match. Estimate rather than calculate.

5,698 − 1,856	6,062
5,986 + 76	4,814
3,008 − 754	3,842
4,589 + 5,125	2,254
9,721 − 4,907	9,714

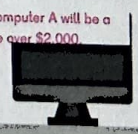
4. Write > or < in the ◯.

(a) 5,894 + 3,125 (>) 9,000

(b) 9,098 − 679 (>) 9,000 − 700

5. Is 4,299 + 3,467 closer to 7,000 or 8,000?
8,000

6. Computer A normally costs $2,413, but is on sale for $450 less.
Computer B normally costs $3,183, but is on sale for $699 less.
Which computer costs less with the sale?
Students may realize they can estimate. Sale cost for Computer A will be a little less than $2,000, and for Computer B will be a little over $2,000.
Computer A costs less with the sale.

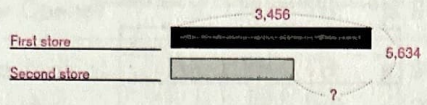


Exercise 6

Basics

1 5,634 lights were used to decorate two stores for the holiday season.
The first store used 3,456 lights.
How many more lights did it use than the second store?

(a) Label the bar model below with the information given.
Mark the quantity that needs to be found with a question mark.



(b) What needs to be found first?
The number of lights used by the second store.

(c) Write an expression, estimate the answer, and then solve the first step.
5,634 – 3,456 = 2,178

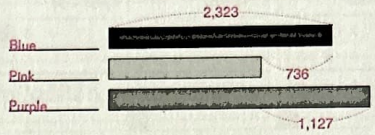
(d) Write an expression, estimate the answer, and solve the second step.
3,456 – 2,178 = 1,278

(e) Write a sentence with the answer to the problem.
The first store used 1,278 more lights than the second store.

Solution steps and models may vary.

Practice

2 A mall used three different colors of lights for its decorations.
It used 2,323 blue lights.
It used 736 fewer pink lights than blue lights.
It used 1,127 more purple lights than pink lights.



(a) How many purple lights did the mall use?
2,323 – 736 = 1,587 or 1,127 – 736 = 391
1,587 + 1,127 = 2,714 2,323 + 391 = 2,714

2,714 purple lights

(b) How many fewer blue lights did the mall use than purple lights?
2,714 – 2,323 = 391 or 1,127 – 736 = 391

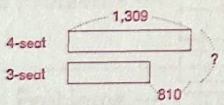
391 fewer blue lights

(c) How many lights did the mall use in all?
pink lights: 2,323 – 736 = 1,587

2,323 + 1,587 + 2,714 = 6,624

6,624 lights

3 A 4-seat sofa set costs $1,309.
The 3-seat sofa set cost $810 less.
How much do both sets cost altogether?

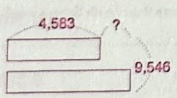


1,309 – 810 = 499
1,309 + 499 = 1,808

Both sets cost $1,808.

4 The sum of two numbers is 9,546.
One number is 4,583.
What is the difference between the two numbers?

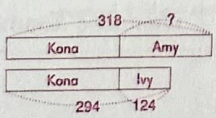
Students do not have to know initially which number is smaller. Steps are the same in either case.



9,546 – 4,583 = 4,963
4,963 – 4,583 = 380

The difference between the two numbers is 380.

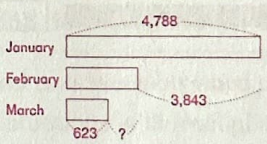
5 Kona and Amy have 318 coins altogether.
Ivy and Kona have 294 coins altogether.
Ivy has 124 coins.
How many coins does Amy have?



294 – 124 = 170
318 – 170 = 148

Amy has 148 coins.

6 In January, there were 4,788 migratory shore birds on an island.
In February, 3,843 birds left the island.
At the end of March, only 623 birds remained.
How many birds left the island in March?

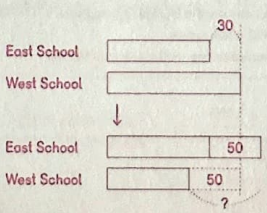


4,788 – 3,843 = 945
945 – 623 = 322

322 birds left in March.

Challenge

7 30 fewer students attended East School than West School.
Then 50 students transferred from West School to East School.
How many more students attend East School than West School now?



50 – 30 = 20
50 + 20 = 70

70 more students attend East School than West School now.

Exercise 7

Check

1 Add or subtract.

7,260 + 385	8,743 − 67	6,488 + 54
7,645	8,676	6,542
R	T	H
7,777 − 888	**7,583 − 2,736**	**3,956 + 5,482**
6,889	4,847	9,438
E	E	T
5,048 − 2,276	**4,984 + 2,427**	**7,006 − 5,489**
2,772	7,411	1,517
T	L	E

Riddle: We see it once in a year, twice in a week, but never in a day. What is it?

Write the letters that match the answers above to find out.

T	H	E		L	E	T	T	E	R		E
2,772	6,542	4,847	4,857	7,411	6,889	8,676	9,438	4,847	7,645	9,338	1,517

2 Use the numbers 1, 2, 3, 4, 5, and 6 to form two 3-digit numbers with the greatest sum and with the least sum. Addends may vary.

	6	4	2
+	5	3	1
1,	1	7	3

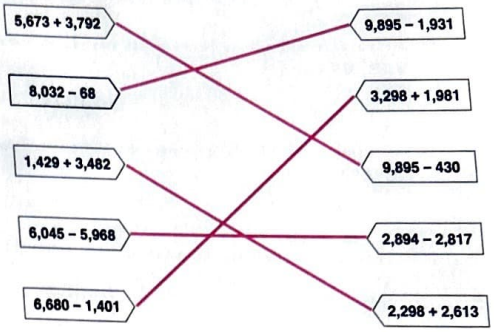
	2	3	5
+	1	4	6
	3	8	1

Use the numbers 1, 2, 3, 4, 5, and 6 to form two 3-digit numbers with the greatest difference and with the least difference.

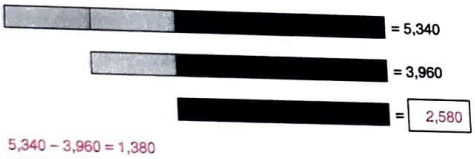
	6	5	4
−	1	2	3
	5	3	1

	4	1	2
−	3	6	5
		4	7

3 Use estimation to match equal expressions.

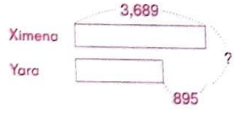


4



5,340 − 3,960 = 1,380
3,960 − 1,380 = 2,580

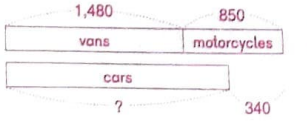
5 Ximena sold 3,689 tickets for a fund raiser.
She sold 895 more tickets than Yara.
How many tickets did they sell in all?



3,689 − 895 = 2,794
3,689 + 2,794 = 6,483

They sold 6,483 tickets in all.

6 There are vans, motorcycles, and cars in a parking complex.
There are 1,480 vans and 850 motorcycles.
There are 340 fewer cars than vans and motorcycles combined.
How many cars are there?

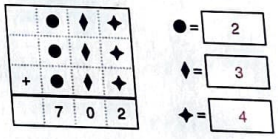


1,480 + 850 = 2,330
2,330 − 340 = 1,990

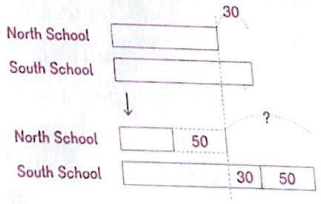
There are 1,990 cars.

Challenge

7 Each shape represents a digit.
What are the digits?



8 30 fewer students attended North School than South School.
Then 50 students transferred from North School to South School.
How many more students attend South School than North School now?



30 + 50 = 80
80 + 50 = 130

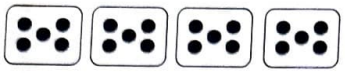
130 more students attend South School than North School now.

Chapter 4 Multiplication and Division

Exercise 1

Basics

1 (a)



4 groups of 5 = 20 | 5 multiplied by 4 = 20

4 × 5 = 20 | 5 × 4 = 20

(b)

5 groups of 4 = 20 | 4 multiplied by 5 = 20

5 × 4 = 20 | 4 × 5 = 20

(c) The product of 4 and 5 is 20.

2 Write 2 different multiplication equations for the total dots.

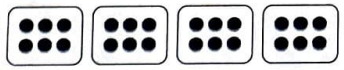
3 × 7 = 21

7 × 3 = 21

Practice

3 Write 2 different multiplication equations for each.

(a)



4 × 6 = 24 | 6 × 4 = 24

(b)

7 × 2 = 14 | 2 × 7 = 14

(c)

3 × 5 = 15

5 × 3 = 15

(d) The product of 3 and 4.

3 × 4 = 12

4 × 3 = 12

4 (a) 8 groups of 7 = 7 groups of 8

(b) 9 multiplied by 5 = 5 multiplied by 9

(c) 6 × 9 = 9 × 6

(d) 5 × 2 = 5 + 5

5 (a) There are 7 bags.
Each bag has 5 apples.
How many apples are there in all? Order of factors may vary.

7 × 5 = 35

There are 35 apples.

(b) There are 5 boxes.
Each box has 8 crayons.
How many crayons are there in all? Order of factors may vary.

There are 40 crayons.

Challenge

6 4 × 2 = 8

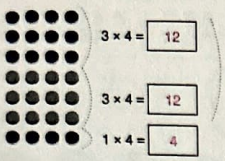
4 tens × 2 = 80

4 tens × 2 tens = 800

Exercise 2

Basics

1 (a)



$3 \times 4 =$ 12

$3 \times 4 =$ 12

$1 \times 4 =$ 4

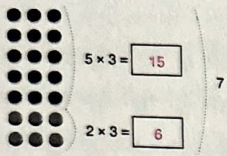
$6 \times 4=$ 24

$7 \times 4 =$ 28

(b) The sum of 3×4 and 3×4 is 6 $\times 4$.

(c) 7×4 is 4 more than 6×4.

2 (a)



$5 \times 3 =$ 15

$2 \times 3 =$ 6

$7 \times 3 =$ 21

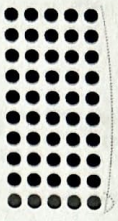
(b) $4 \times 3 = 6 +$ 6 $=$ 12

2 / 2

(c) $6 \times 3 = 12 +$ 6 $=$ 18

4 / 2

3 (a)



$10 \times 5 =$ 50

$1 \times 5 =$ 5

$9 \times 5 =$ 45

(b) $9 \times 5 =$ 50 $- 5$.

(c) $5 \times 9 =$ 45

Practice

4 (a) $8 \times 4 = 16 +$ 16 $=$ 32

2 / 2

(b) $4 \times 8 =$ 32

5 Each bracelet has 4 charms.
How many charms are on 9 bracelets?
$9 \times 4 = 36$
36 charms

6 Ming has 5 toy cars.
He gets 2 more toy cars.
Each car has 4 wheels.
How many wheels are on all his cars?
$7 \times 4 = 28$
28 wheels

7 Complete the multiplication tables.

×	1	3	5	4	10	2
5	5	15	25	20	50	10
2	2	6	10	8	20	4
7	7	21	35	28	70	14

×	5	10	3	2	4	1
2	10	20	6	4	8	2
4	20	40	12	8	16	4
8	40	80	24	16	32	8
3	15	30	9	6	12	3
6	30	60	18	12	24	6
9	45	90	27	18	36	9
5	25	50	15	10	20	5
10	50	100	30	20	40	10

×	1	3	5	4	10	2
10	10	30	50	40	100	20
1	1	3	5	4	10	2
9	9	27	45	36	90	18

×	5	2	4	7	3	8	1	6	10	9
5	25	10	20	35	15	40	5	30	50	45
3	15	6	12	21	9	24	3	18	30	27
4	20	8	16	28	12	32	4	24	40	36

Challenge

8 (a) $8 \times 4 = 40 -$ 8 $=$ 32

(b) The sum of 2×50 and 3×50 is 5 $\times 50$.

(c) The sum of 56×2 and 56×2 is $56 \times$ 4.

Exercise 3

Basics

1 (a) Divide 12 counters into 4 equal groups.
Draw a picture to show this.

12 divided into 4 groups = [3] | 12 ÷ 4 = [3]

There are 4 groups of 3.

(b) Divide 12 counters into groups of 4.
Draw a picture to show this.

12 divided into groups of 4 = [3] | 12 ÷ 4 = [3]

There are 3 groups of 4.

(c) The quotient of 12 and 4 is 3.

2

9 × 5 = [45] | [45] ÷ 5 = 9

5 × 9 = [45] | [45] ÷ 9 = [5]

Practice

3 There are 18 pieces of sushi.
Each plate can hold 3 pieces of sushi.
Find how many plates are needed.

[18] ÷ [3] = [6]

4 There are 35 crayons.
5 children share them equally.
Find how many each child gets.

[35] ÷ [5] = [7]

5 Fill in the ◯ with +, −, ×, or ÷ to make each equation true.

7 (×) 3 = 21 | 21 (÷) 3 = 7

3 (×) 7 = 21 | 21 (÷) 7 = 3

6 (a) [7] × 4 = 28 | (b) [5] × 5 = 25

28 ÷ 4 = [7] | 25 ÷ 5 = [5]

(c) 3 × [8] = 24 | (d) 4 × [9] = 36

24 ÷ 3 = [8] | 36 ÷ 4 = [9]

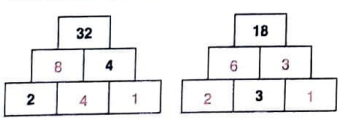
7 (a) 35 ÷ 5 = [7] | (b) 18 ÷ 2 = [9]

(c) 24 ÷ 3 = [8] | (d) 40 ÷ 10 = [4]

8 Each person bought a sandwich for $4 and a drink for $1.
Altogether they spent $20.
How many people were there?
4 + 1 = 5
20 ÷ 5 = 4
There were 4 people.

Challenge

9 The number in each box is the product of the two boxes below it.
Write the missing numbers.



Exercise 4

Basics

1. 0 counters are divided into 4 equal groups.

There are 0 counters in each group.

$4 \times \boxed{0} = 0$

$0 \div 4 = \boxed{0}$

2. Each bag has 0 apples.
Find how many apples are in 9 bags.

$9 \times \boxed{0} = \boxed{0}$

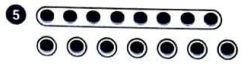
3. (a) $4 \times \boxed{2} = 8$, so $8 \div 4 = \boxed{2}$

(b) What value make $0 \times \boxed{} = 8$ true? no value.

$8 \div 0$ has no answer.

4. (a) The product of any number and 0 is 0.

(b) 0 divided by any number other than 0 is 0.

5. 

(a) 8 divided into 1 group is 8 in each group. $8 \div 1 = \boxed{8}$

(b) 8 grouped by 1 is 8 groups. $8 \div 1 = \boxed{8}$

(c) 8 divided into 8 groups is 1 in each group. $8 \div 8 = \boxed{1}$

(d) 8 grouped by 8 is 1 group. $8 \div 8 = \boxed{1}$

6. (a) Any number divided by 1 equals itself.

(b) Any number divided by itself equals 1.

Practice

7. 

$10 \times \boxed{1} = 10$ | $10 \div 10 = \boxed{1}$

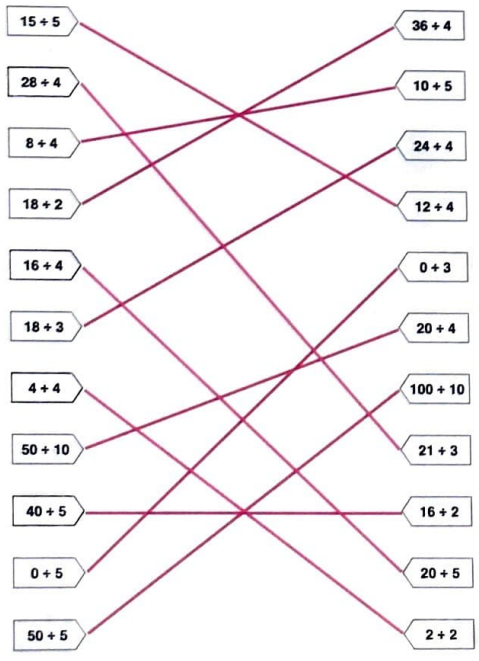
$\boxed{1} \times 10 = 10$ | $10 \div \boxed{1} = 10$

8. $7 \times \boxed{0} = 0$ | $\boxed{0} \div 7 = 0$

$\boxed{0} \times 7 = 0$

9. (a) $10 \div \boxed{10} = 7 \div \boxed{7}$ (b) $\boxed{0} \div 10 = 0 \times 7$

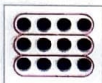
10. Match.



Exercise 5

Basics

1 Circle the counters to make groups of 4.

(a) 

$12 \div 4 = \boxed{3}$

$12 = \boxed{3} \times 4$

(b) 

$13 \div 4$ is $\boxed{3}$ with a remainder of $\boxed{1}$.

$13 = \boxed{3} \times 4 + 1$

(c) 

$14 \div 4$ is $\boxed{3}$ with a remainder of $\boxed{2}$.

$14 = \boxed{3} \times 4 + 2$

(d) 

$15 \div 4$ is $\boxed{3}$ with a remainder of $\boxed{3}$.

$15 = \boxed{3} \times 4 + 3$

(e) 

$16 \div 4 = \boxed{4}$

$16 = \boxed{4} \times 4$

(f) The remainders when dividing by 4 are __1__, __2__, and __3__.

(g) The remainders are all less than __4__.

Practice

2 There are 23 pieces of sushi.
Each plate can hold at most 3 pieces of sushi.
Find the fewest number of plates that are needed.

$\boxed{23} \div \boxed{3}$ is $\boxed{7}$ with a remainder of $\boxed{2}$.

__8__ plates are needed.

__7__ of the plates have 3 pieces of sushi.

__1__ of the plates has __2__ pieces of sushi.

3 There are 39 crayons.
5 children want to share them equally.
Find how many each child gets and how many are left over.

$\boxed{39} \div \boxed{5}$ is $\boxed{7}$ with a remainder of $\boxed{4}$.

Each child gets __7__ crayons.

__4__ crayons are left over.

4 There are 38 pennies.
If we trade in as many pennies as possible for nickels, how many nickels and pennies will there be?

$\boxed{7} \times 5 = 35$

$\boxed{8} \times 5 = 40$

38 is between 35 and 40. $38 - 35 = \boxed{3}$

$\boxed{38} \div \boxed{5}$ is $\boxed{7}$ with a remainder of $\boxed{3}$.

There will be __7__ nickels and __3__ pennies.

5 (a) $19 \div 2$ is $\boxed{9}$ with a remainder of $\boxed{1}$.

(b) $\boxed{20} \div 3$ is 6 with a remainder of 2.

(c) $57 \div \boxed{10}$ is 5 with a remainder of 7.

(d) $33 \div \boxed{4}$ is 8 with a remainder of $\boxed{1}$.

6 Abigail has 15 flowers.
She wants to put the same number of flowers in each vase.
What different numbers of vases could she use?
1, 3, 5, or 15

7 Color the spaces where there is a remainder of 1 to help the spider find its home.

36 ÷ 5	9 ÷ 2	27 ÷ 5	10 + 4	33 + 10	20 + 2	34 + 4
12 + 2	10 ÷ 3	17 + 3	17 + 10	19 ÷ 2	33 ÷ 4	41 ÷ 5
27 + 3	13 ÷ 4	18 + 2	26 + 3	29 ÷ 4	14 + 3	17 ÷ 4
8 + 1	22 ÷ 3	41 ÷ 10	0 + 4	28 ÷ 3	39 + 4	6 ÷ 5
15 + 10	23 + 4	46 ÷ 5	0 + 5	36 ÷ 5	11 + 3	13 ÷ 3
10 + 1	34 + 5	9 ÷ 4	17 ÷ 2	31 ÷ 10	39 + 5	5 ÷ 2

Challenge

8 What numbers between 24 and 49 have a remainder of 3 when divided by 5?
28, 33, 38, 43, or 48

$5 \times 5 + 3 = 28$
$5 \times 6 + 3 = 33$
$5 \times 7 + 3 = 38$
$5 \times 8 + 3 = 43$
$5 \times 9 + 3 = 48$

Exercise 6

Basics

1. A number that can be divided by 2 with no remainder is called an ___even___ number.

2. Find the quotient and remainder when each of these numbers is divided by 2. Put a check mark in the column to show if the number is odd or even.

	÷ 2			
Number	Quotient	Remainder	Odd	Even
20	10	0		✓
19	9	1	✓	
18	9	0		✓
17	8	1	✓	
16	8	0		✓
15	7	1	✓	
14	7	0		✓
13	6	1	✓	
12	6	0		✓
11	5	1	✓	
10	5	0		✓
9	4	1	✓	
8	4	0		✓
7	3	1	✓	
6	3	0		✓
5	2	1	✓	
4	2	0		✓
3	1	1	✓	
2	1	0		✓
1	0	1	✓	
0	0	0		✓

Practice

3. Fill in the blanks with even or odd.

Students may either generalize the ideas or find the answers first.

(a) 
6 + 8
even + even = even

(b) 
5 + 7
odd + odd = ___even___

(c) 
6 + 7
even + ___odd___ = ___odd___

(d) 
5 + 8
___odd___ + ___even___ = ___odd___

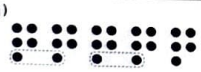
(e) 
12 − 4
even − even = ___even___

(f) 
11 − 5
___odd___ − ___odd___ = ___even___

(g) 
12 − 5
___even___ − ___odd___ = ___odd___

(h) 
11 − 6
___odd___ − ___even___ = ___odd___

(i) 
6 × 4
even × even = ___even___

(j) 
5 × 5
odd × odd = ___odd___

(k) 
6 × 3
___even___ × ___odd___ = ___even___

(l) 
5 × 4
___odd___ × ___even___ = ___even___

4. Circle the expression if the value is even.

Challenge

5. Circle the expression if the value is even.

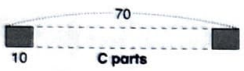
Exercise 7

Basics

1 What are the missing numbers?
Complete the equations.

A 7 × 4 = 28

B 45 ÷ 5 = 9



C 70 ÷ 10 = 7

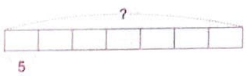
Practice

2 Draw a model and write an equation to solve each problem.

(a) 28 children are divided into teams of 4.
How many teams are there?

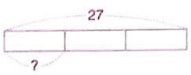
28 ÷ 4 = 7
There are 7 teams.

(b) Violet saved $5 a week.
How much money did she save in 7 weeks?



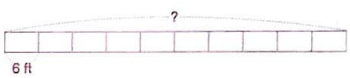
7 × 5 = 35
She saved $35.

(c) 3 friends bought a birthday present for $27.
They shared the cost equally.
How much did each of them pay?



27 ÷ 3 = 9
Each paid $9.

(d) A ribbon was cut into 10 equal pieces.
Each piece was 6 ft long.
How long was the ribbon at first?

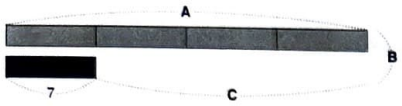


10 × 6 = 60
The ribbon was 60 ft long at first.

Exercise 8

Basics

1 What are the missing numbers?
Complete the equations.



1 unit ⟶ 7

A 4 units ⟶ 7 × 4 = 28

B 5 units ⟶ 7 × 5 = 35

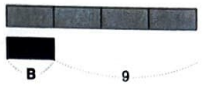
C 3 units ⟶ 7 × 3 = 21

4 units ⟶ 24

D 1 unit ⟶ 24 ÷ 4 = 6

2 Complete the equations for finding the unknown numbers.

A 50 ÷ 5 = 10



B 9 ÷ 3 = 3

Practice

Draw a model and write an equation to solve each problem.

3 William paid $12 for a notebook and a pen.
The notebook cost 3 times as much as the pen.

(a) How much did the pen cost?

(b) How much did the notebook cost?

notebook
pen
$12

12 ÷ 4 = 3
The pen cost $3.

3 × 3 = 9
The notebook cost $9.

4 There are 5 times as many sheep as goats on a farm.
There are 40 more sheep than goats.

(a) How many goats are there?

(b) How many sheep are there?

sheep
goats
40

40 ÷ 4 = 10
There are 10 goats.

10 × 5 = 50
There are 50 sheep.

5 There are 5 times as many chickens as horses on a farm.
There are 10 horses.

(a) How many chickens are there?

(b) How many more chickens than horses are there?

chickens
horses
10

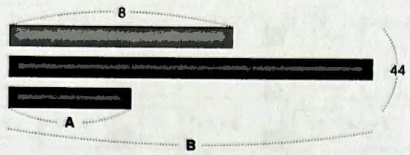
10 × 5 = 50
There are 50 chickens.

10 × 4 = 40 (or: 50 − 10 = 40)
There are 40 more chickens than horses.

Exercise 9

Basics

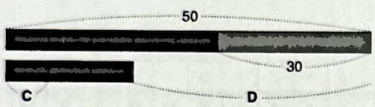
1 Complete the equations to find the unknown numbers.



A 4 units → 44 − 8 = 36

1 unit → 36 ÷ 4 = 9

B 3 units → 9 × 3 = 27



C 5 units → 50 − 30 = 20

1 unit → 20 ÷ 5 = 4

D 2 units → 4 × 2 = 8

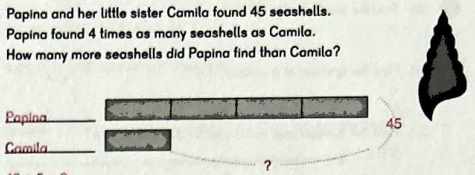
30 + 8 = 38

Practice

Methods may vary.

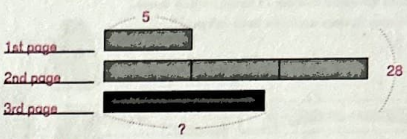
Label the bar models with the information in the problems and solve the problems.

2 Papina and her little sister Camila found 45 seashells.
Papina found 4 times as many seashells as Camila.
How many more seashells did Papina find than Camila?



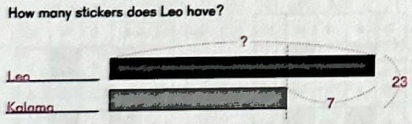
45 ÷ 5 = 9
9 × 3 = 27
Papina found 27 more seashells.

3 Kona is arranging 28 pictures onto 3 pages in an album.
The first page has 5 pictures.
The second page has 3 times as many pictures as the first page.
How many pictures are on the third page?



4 × 5 = 20
28 − 20 = 8
There are 8 pictures on the third page.

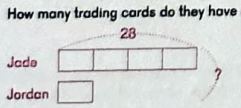
4 Leo and Kalama together have 23 stickers.
Kalama has 7 fewer stickers than Leo.
How many stickers does Leo have?



23 + 7 = 30
30 ÷ 2 = 15
Leo has 15 stickers.

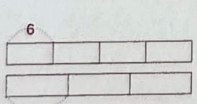
Draw models and solve each problem.

5 Jade has 28 trading cards.
She has 4 times as many trading cards as Jordan.
How many trading cards do they have altogether?



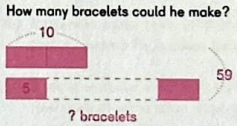
28 ÷ 4 = 7
28 + 7 = 35
They have 35 trading cards altogether.

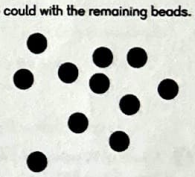
6 Malik has 4 packs of toy cars, each with 6 cars.
He wants to share them equally between himself and 2 friends.
How many cars does each friend get?



4 × 6 = 24
24 ÷ 3 = 8
Each friend gets 8 cars.

7 Jason has 59 beads.
He made a necklace with 10 of the beads.
He wanted to make as many bracelets as he could with the remaining beads.
Each bracelet had 5 beads.
How many bracelets could he make?



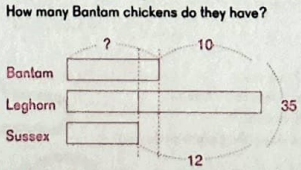


59 − 10 = 49
49 ÷ 5 is 9 R 4

She could make 9 bracelets with 4 beads left over.

Challenge

8 Jamal's family has 3 breeds of chickens and a total of 35 chickens.
They have 10 more Leghorn chickens than Bantam chickens.
They have 12 more Leghorn chickens than Sussex chickens.
How many Bantam chickens do they have?



12 − 10 = 2
35 − 10 ÷ 2 = 27
27 ÷ 3 = 9
They have 9 Bantam chickens.

Check: Leghorn: 9 + 10 = 19
Sussex: 19 − 12 = 7
9 + 19 + 7 = 35 ✓

Exercise 10

Check

1 (a) Find the product of 3 and 7.
21

(b) Find the quotient of 0 divided by 8.
0

(c) Find the quotient and remainder for 35 divided by 4.
8 R 3

2 (a) $26 = 8 \times$ [3] $+ 2$

(b) $5 + 5 + 5 + 5 +$ [15] $= 7 \times 5$

(c) $7 \times 4 = 5 \times 4 +$ [8]

(d) $9 \times 4 = 10 \times 4 -$ [4]

3 Tomas has an odd number of flowers.
He puts the same number of flowers into 4 vases.
How many flowers could he have left over?
1 or 3

4 Multiply or divide.

S	$2 \times 7 =$ 14	O	$40 \div 4 =$ 10	E	$36 \div 4 =$ 9
L	$3 \times 7 =$ 21	R	$5 \times 5 =$ 25	I	$18 \div 3 =$ 6
T	$8 \div 8 =$ 1	P	$4 \times 3 =$ 12	N	$4 \times 4 =$ 16
F	$4 \times 6 =$ 24	W	$8 \div 4 =$ 2	S	$5 \times 9 =$ 45
I	$3 \times 5 =$ 15	K	$80 \div 10 =$ 8	C	$20 \div 5 =$ 4
M	$25 \div 5 =$ 5	U	$2 \times 0 =$ 0	E	$28 \div 4 =$ 7
D	$3 \times 6 =$ 18	H	$5 \times 4 =$ 20	A	$9 \div 3 =$ 3

Write the letters that match the answers above to learn something weird but true.

	K	E	T	C	H	U	P		W	A	S	
17	8	7	1	4	20	0	12	13	2	3	14	11

F	I	R	S	T		S	O	L	D		A	S
24	6	25	45	1	19	14	10	21	18	29	3	45

		M	E	D	I	C	I	N	E			
27	26	5	9	18	15	4	6	16	7	22	30	23

5 5 children share 38 crayons equally.
How many crayons are left over?
$38 \div 5$ is 7 R 3
3 crayons are left over.

6 A pack of 10 notepads costs $5.
Jasmine has $42.

(a) How many packs of notepads could she buy?

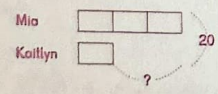
(b) If she buys 5 packs of notepads, how much money will she have left over?

(c) If she spends $35 on the packs of notepads, how many notepads will she have?
$42 \div 5$ is 8 R 2
She could buy 8 packs of notepads.

$5 \times 5 = 25$
$42 - 25 = 17$
She will have $17 left over.

$35 \div 5 = 7$
$7 \times 10 = 70$
She will have 70 notepads.

7 Mia has 3 times as many ribbons as Asima.
Altogether they have 20 ribbons.
How many more ribbons does Mia have than Asima?



$20 \div 2 = 10$
Mia has 10 more ribbons than Kaitlyn.

Challenge

8 Complete the cross-number puzzles.

(a)

7	×	4	=	28
×		×		+
10	×	3	=	30
=		=		=
70	−	12	=	58

(b)

5	×	8	=	40
×		×		−
2	×	3	=	6
=		=		=
10	+	24	=	34

9 Logan has twice as many comic books as Jade.
After Jade buys 9 more comic books, she has twice as many comic books as Logan.
How many comic books did Jade have at first?

Before
Jade [ ]
Logan [ ][ ]

After
Jade [ ][ ][ ][ ] 9
Logan [ ][ ]

$9 \div 3 = 3$

Jade had 3 comic books at first.

Exercise 11

Check

1 What is the value of each digit?

(a) 9,208

9	9,000
2	200
0	0
8	8

(b) 3,190

3	3,000
1	100
9	90
0	0

(c) In 9,208, the digit 9 is in the ___thousands___ place.

(d) In 3,190, the digit 9 is in the ___tens___ place.

(e) 3,190 is the same as ___319___ tens.

(f) Write 9,208 in words.
nine thousand, two hundred eight

2 Write the greatest and least 4-digit number you can make using all the digits.

Digits	Greatest	Least
9, 0, 8, 0	9,800	8,009
2, 2, 1, 4	4,221	1,224

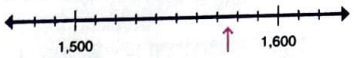
3 Write > or < in the ◯.

6,043 (<) 3 + 400 + 6,000

44 hundreds (<) 4,000 + 40 + 600

8,450 (>) 32 hundreds 5 thousands

4 Draw an arrow to show the location of 1,575 on the number line.



5 Round 4,845...

(a) To the nearest thousand. 5,000

(b) To the nearest hundred. 4,800

(c) To the nearest ten. 4,850

6 Cross out the incorrect answers.

6,203 is the same as...

~~6,200 tens~~ | 6 thousands + 2 hundreds

~~62 hundreds + 10 ones~~ | 62 hundreds + 3 ones

6 thousand + 203 ones | ~~62 tens + 3 ones~~

7 Use mental calculation to find the value.

(a) 580 + 250 = 830

(b) 810 − 740 = 70

(c) 477 + 199 = 676

(d) 462 − 197 = 265

(e) 5,000 − 260 = 4,740

(f) 600 − 344 = 256

8 (a) Is 4,239 + 3,440 closer to 7,000 or 8,000? ___8,000___

(b) Is 4,239 − 3,440 closer to 700 or 800? ___800___

9 (a) 7 × 3 = 3 × 7

(b) 6 × 4 = 3 × 8

(c) 27 ÷ 3 = 3 × 3

(d) 38 = 9 × 4 + 2

(e) 17 = 8 × 2 + 1

(f) 10 × 3 = 5 × 5 + 5

10 What number do you need to add to the sum of 2,420 and 3,980 to get the number 8,000?

2,420 + 3,980 = 6,400

8,000 − 6,400 = 1,600

You need to add 1,600.

11 Nora saved $2,000 to spend on a computer.
She bought a gaming laptop for $1,349.

(a) How much money does she have left?

(b) A business laptop costs $458 more than the gaming laptop.
How much does the business laptop cost?

(c) A tablet computer costs $651 less than the gaming laptop.
How much does the tablet computer cost?

2,000 − 1,349 = 651

She has $651 left.

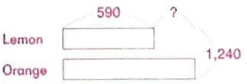
1,349 + 458 = 1,807

It costs $1,807.

1,349 − 651 = 698

The tablet computer costs $698.

12 There are 1,240 lemon and orange trees in an orchard.
If there are 590 lemon trees, how many more orange trees than lemon trees are there?

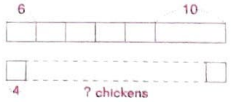


1,240 − 590 = 650

650 − 590 = 60

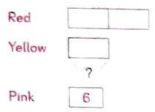
There are 60 more orange trees than lemon trees.

13 The eggs from some chickens were packed into 5 egg cartons.
Each egg carton holds 6 eggs.
10 eggs broke before they were packed.
If each chicken laid 4 eggs that day, how many chickens laid eggs?



$5 \times 6 = 30$
$30 + 10 = 40$
$40 \div 4 = 10$
10 chickens laid eggs.

14 There are 30 red, yellow, and pink rose bushes in a garden.
There are twice as many red rose bushes as yellow rose bushes.
There are 6 pink rose bushes.
How many yellow rose bushes are there?



$30 - 6 = 24$
$24 \div 3 = 8$
There are 8 yellow rose bushes.

15 List the numbers less than 30 that have a remainder of 2 when divided by 3 or 4.
When divided by 3: 29, 26, 23, 20, 17, 14, 11, 8, 5
When divided by 4: 26, 22, 18, 14, 10, 6
Both: 26,14

Or: Only even numbers have a remainder of 2 when divided by 4.
Check even numbers less than 30 that are not products of 4:
6, 10, 14, 18, 22, 26,
6 and 18 will have no remainders when divided by 3.
14 and 26 have a remainder of 2 when divided by 3.

Challenge

16 Write +, −, ×, or ÷ in the ◯.

(a) $8 \bigcirc 12 = 5 \bigcirc 4$ (+, ×)
(b) $12 \bigcirc 2 = 24 \bigcirc 4$ (÷, ÷)
(c) $24 \bigcirc 4 = 12 \bigcirc 6$ (÷, −)
(d) $27 \bigcirc 3 = 20 \bigcirc 10$ (+, +)
(e) $8 \times 4 \bigcirc 8 = 6 \bigcirc 4$ (−, ×)
(f) $7 \times 4 \bigcirc 8 = 10 \bigcirc 2$ (−, ×)

17 Complete the cross number puzzle.

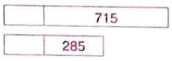
(a)

12	+	3	=	4
+		+		+
2	×	2	=	4
=		=		=
6	−	5	=	1

(b)

32	÷	4	=	8
−		+		+
20	÷	2	=	10
=		=		=
12	+	6	=	18

18 To find the difference between 715 and 285, Mei first mentally added 15 to each number and then calculated $730 - 300 = 430$.
Does her method work?
Explain.



Adding the same number to two numbers does not change the difference between those two numbers.

Exercise 1 • pages 133–134

Chapter 5 Multiplication

Exercise 1

Basics

1. Fill in the missing numbers or digits.

(a) 7 ones × 4 = 28 ones
= 28

(b) 7 tens × 4 = 28 tens
= 280

(c) 7 hundreds × 4 = 28 hundreds
= 2,800

2. Multiply.

(a)

		2
×		4
		8

		2	0
×			4
		8	0

	2	0	0
×			4
	8	0	0

(b)

		5
×		4
	2	0

		5	0
×			4
	2	0	0

	5	0	0
×			4
	2,	0	0

Practice

3. (a) Multiply 3 by 600.

	6	0	0
×			3
1,	8	0	0

(b) Find the product of 80 and 5.

	8	0
×		5
4	0	0

4. (a) 20 × 5 = 100
(b) 700 × 2 = 1,400
(c) 4 × 90 = 360
(d) 4 × 600 = 2,400
(e) 3 × 800 = 2,400
(f) 800 × 5 = 4,000

5. There are 4 boxes of 800 nails.
How many nails are there in all?
800 × 4 = 3,200
There are 3,200 nails in all.

Challenge

6. There are 300 packages each with a set of 5 screwdrivers, and 500 packages each with a set of 4 screwdrivers.
How many screwdrivers are there in all?
300 × 5 = 1,500
500 × 4 = 2,000
1,500 + 2,000 = 3,500
There are 3,500 screwdrivers in all.

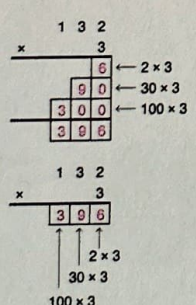
Exercise 2 • pages 135–136

Exercise 2

Basics

1. Fill in the missing numbers or digits.

2 × 3 = 6
30 × 3 = 90
100 × 3 = 300
132 × 3 = 396



2. Multiply.

		2	1
×			4
		8	4

		1	2
×			4
		4	8

	1	1	2
×			3
	3	3	6

3. Find the value of 2 × 321.

	3	2	1
×			2
6	4	2	

Practice

4. Multiply.

33 × 3

	3	3
×		3
9	9	

141 × 2

	1	4	1
×			2
2	8	2	

2 × 432

	4	3	2
×			2
8	6	4	

5. A craft store sells wooden beads in bags of 230.
How many beads are in two bags?
2 × 230 = 460
There are 460 beads in two bags.

Challenge

6. Aki made 12 pairs of earrings.
She used 2 beads on each earring.
How many beads did she use in all?
2 × 2 = 4 or 12 × 2 = 24
12 × 4 = 48 24 × 2 = 48
She used 48 beads in all.

Exercise 3

Basics

1 Fill in the missing numbers or digits.

$2 \times 3 =$ 6

$80 \times 3 =$ 240

$82 \times 3 =$ 246

	8	2	
×		3	
		6	← 2 × 3
	2	4	0 ← 80 × 3
	2	4	6

	8	2	
×		3	
	2	4	6

2 × 3

80 × 3

2 (a) $74 \times 2 = 140 + 8 =$ 148

70 4

(b) $5 \times 61 =$ 300 $+ 5 =$ 305

60 1

(c) $93 \times 3 =$ 270 $+ 9 =$ 279

90 3

Practice

3 Multiply.

83 × 2	52 × 4	71 × 3
8 3 × 2 = 1 6 6	5 2 × 4 = 2 0 8	7 1 × 3 = 2 1 3
4 × 62	**5 × 71**	**63 × 2**
6 2 × 4 = 2 4 8	7 1 × 5 = 3 5 5	6 3 × 2 = 1 2 6

4 A deck of cards has 52 cards.
How many cards are in 4 decks of cards?

$4 \times 52 = 208$

There are 208 cards in 4 decks of cards.

Challenge

5 Write the missing digits in each equation to make them true.
The missing numbers can be used more than once.

(a) Missing: 3 and 5

	5	2
×		3
1	5	6

(b) Missing: 2 and 4

	8	2
×		4
3	2	8

Exercise 4

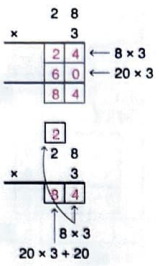
Basics

Fill in the missing numbers or digits.

1. $8 \times 3 =$ 24

   $20 \times 3 =$ 60

   $28 \times 3 =$ 84



2. $8 \times 2 =$ 16

   $38 \times 2 = 30 \times 2 +$ 16

   $=$ 76

3. $9 \times 4 =$ 36

   $19 \times 4 = 10 \times 4 +$ 36

   $=$ 76

Practice

4. Multiply.

38 × 2	15 × 4	27 × 3
76 **A**	60 **O**	81 **M**
4 × 23	**5 × 17**	**36 × 2**
92 **U**	85 **E**	72 **R**
19 × 3	**2 × 39**	**3 × 25**
57 **I**	78 **Y**	75 **N**

Riddle: What belongs to you but is used more by others?
Write the letters (or blank for space) in the boxes below to find out.

Y	O	U	R		N	A	M	E
78	60	92	72	57	75	76	81	85

5. Each student in the class is to be given 4 sheets of paper. If there are 24 students in the class, how many sheets of paper are needed?

   $24 \times 4 = 96$

   96 sheets of paper are needed.

6. A gift basket has 12 kiwis and 12 tangerines. How many fruits do 2 such gift baskets have?

   $12 + 12 = 24$

   $24 \times 2 = 48$

   2 such gift baskets have 48 fruits.

Challenge

7. $19 \times 4 = 20 \times 4 -$ 4

8. Write the missing digits in each equation to make them true.

   (a) Missing: 1, 5, and 6

   (b) Missing: 1, 2, and 3

Exercise 5

Basics

1 Fill in the missing numbers or digits.

$8 \times 3 =$ 24

$60 \times 3 =$ 180

$68 \times 3 =$ 204

$$\begin{array}{r} 6\ 8 \\ \times \quad 3 \\ \hline 2\ 4 \\ 1\ 8\ 0 \\ \hline 2\ 0\ 4 \end{array} \quad \begin{array}{l} \leftarrow 8 \times 3 \\ \leftarrow 60 \times 3 \end{array}$$

$$\begin{array}{r} \overset{2}{} \\ 6\ 8 \\ \times \quad 3 \\ \hline 2\ 0\ 4 \end{array}$$

8×3

$60 \times 3 + 20$

2 $8 \times 5 =$ 40

$38 \times 5 = 30 \times 5 +$ 40

$=$ 190

$$\begin{array}{r} 3\ 8 \\ \times \quad 5 \\ \hline 1\ 9\ 0 \end{array}$$

3 $9 \times 4 =$ 36

$79 \times 4 = 70 \times 4 +$ 36

$=$ 316

$$\begin{array}{r} 7\ 9 \\ \times \quad 4 \\ \hline 3\ 1\ 6 \end{array}$$

Practice

4 Multiply.

74×4 = 296 (E)	99×2 = 198 (I)	68×5 = 340 (M)
45×5 = 225 (V)	67×3 = 201 (E)	86×4 = 344 (T)
4×39 = 156 (E)	87×5 = 435 (S)	3×98 = 294 (N)

What is the greatest number of times you can fold ordinary printer paper in half by hand?
Write the letters in the boxes below to find out.

S	E	V	E	N		T	I	M	E	S
435	201	225	156	294	286	344	198	340	296	435

5 Isabella made 5 bows.
She used 86 cm of ribbon for each bow.
How many centimeters of ribbon did she use altogether?
$5 \times 86 = 430$
She used 430 cm of ribbon.

6 A store received 4 crates of grape juice one week and 3 crates of grape juice the next week.
Each crate had 75 bottles of grape juice.
How many bottles of grape juice did the store receive those two weeks?
$4 + 3 = 7$
$7 \times 75 = 525$
The store received 525 bottles of grape juice those two weeks.

Challenge

7 $99 \times 4 = 100 \times 4 -$ 4

8 Write the missing digits in each equation to make them true.

(a) Missing: 2 and 4

$$\begin{array}{r} 8\ \boxed{2} \\ \times \quad 6 \\ \hline \boxed{4}\ 9\ \boxed{2} \end{array}$$

(b) Missing: 6 and 7

$$\begin{array}{r} \boxed{6}\ 3 \\ \times \quad 9 \\ \hline 5\ \boxed{6}\ \boxed{7} \end{array}$$

Exercise 6

Check

1 (a) 800 × 5 = 4,000

(b) 3 × 900 = 2,700

(c) 4 × 40 = 160

(d) 600 × 4 = 2,400

(e) 3 × 200 = 600

(f) 500 × 5 = 2,500

(g) 32 × 3 = 96

(h) 122 × 4 = 488

2 Multiply.

31 × 5 = 155	62 × 4 = 248	27 × 3 = 81
18 × 5 = 90	36 × 4 = 144	88 × 3 = 264
76 × 2 = 152	44 × 5 = 220	59 × 4 = 236

3 A bakery uses 5 cups of flour to make one chocolate cake, 4 cups of flour to make one vanilla cake, and 3 cups of flour to make one pudding cake.

(a) How many cups of flour does the bakery need to make 23 chocolate cakes and 32 vanilla cakes?

23 × 5 = 115
32 × 4 = 128
115 + 128 = 243
The bakery needs 243 cups of flour.

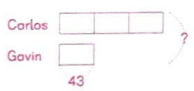
(b) Which takes more flour to make, 16 chocolate cakes or 25 pudding cakes? How much more?

16 × 5 = 80
25 × 3 = 75
80 − 75 = 5
It takes 5 more cups of flour to make 16 chocolate cakes than to make 25 pudding cakes.

(c) A baker combined the recipes for vanilla cake and pudding cake to make a large vanilla-pudding cake.
How many cups of flour are needed to make 22 vanilla-pudding cakes?

3 + 4 = 7
22 × 7 = 154
154 cups of flour are need to make 22 vanilla-pudding cakes.

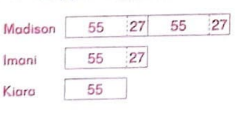
4 Gavin collected 43 game cards.
Carlos collected three times as many game cards as Gavin.
How many cards did they collect altogether?



43 × 4 = 172
They collected 172 cards altogether.

Challenge

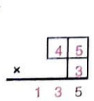
5 Madison has twice as many game cards as Imani.
Imani has 27 more game cards than Kiara.
Kiara has 55 game cards.
How many game cards do they have altogether?



55 × 4 = 220
27 × 3 = 81
220 + 81 = 301

The have 301 game cards altogether.

6 Arrange the digits 3, 4, and 5 to form one number with the greatest product and one number with the least product.



Exercise 7

Basics

❶ Fill in the missing numbers or digits.

$2 \times 3 =$ 6

$40 \times 3 =$ 120

$100 \times 3 =$ 300

$142 \times 3 =$ 426

	1	4	2
×			3
			6	← 2 × 3
	1	2	0	← 40 × 3
	3	0	0	← 100 × 3
	4	2	6	

			1
	1	4	2
×			3
	4	2	6

2 × 3
40 × 3
100 × 3 + 100

❷ Multiply.

118 × 4

		1	1	8
×				4
	4	7	2	

182 × 4

		1	8	2
×				4
		7	2	8

812 × 4

	8	1	2
×			4
	3,	2	4	8

Practice

❸ Multiply.

317 × 2			
		3	1	7
×				2
		6	3	4
S				

5 × 171			
		1	7	1
×				5
		8	5	5
E				

123 × 4			
		1	2	3
×				4
		4	9	2
I				

4 × 512			
		5	1	2
×				4
	2,	0	4	8
E				

513 × 3			
		5	1	3
×				3
	1,	5	3	9
T				

924 × 2			
		9	2	4
×				2
	1,	8	4	8
M				

307 × 3			
		3	0	7
×				3
		9	2	1
W				

2 × 263			
		2	6	3
×				2
		5	2	6
V				

171 × 4			
		1	7	1
×				4
		6	8	4
L				

A student set a record by folding a long piece of toilet paper in half...
Write the letters in the boxes below to complete the sentence.

T	W	E	L	V	E		T	I	M	E	S
1,539	921	855	684	526	2,048	426	1,539	492	1,848	2,048	634

❹ A drier costs $412.
A washing machine costs twice as much.
How much do the washing machine and dryer cost altogether?
$412 × 3 = $1,236
They cost $1,236 altogether.

❺ Karen bought a dining room table and 4 chairs.
The chairs each cost $115.
The table cost $532.
How much did she spend?
$115 × 4 = $460
$460 + $532 = $992
She spent $992.

Challenge

❻ Write the missing digits in each equation to make them true.

(a) Missing: 2 and 6

	6	2	2
×			3
1,	8	6	6

(b) Missing: 0, 1, and 5

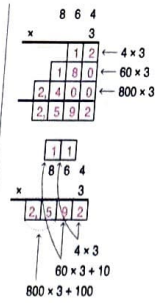
	1	3	0
×			5
6	5	0	

Exercise 8

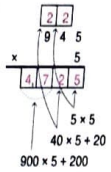
Basics

Fill in the missing numbers or digits.

1. 4 × 3 = 12
   60 × 3 = 180
   800 × 3 = 2,400
   864 × 3 = 2,592

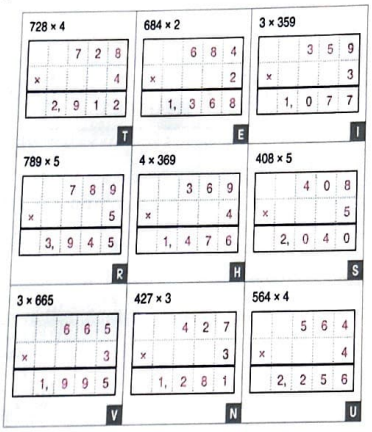


2. 5 × 5 = 25
   40 × 5 = 200
   900 × 5 = 4,500
   945 × 5 = 4,725



Practice

3. Multiply.



If a piece of paper could be folded 103 times, it would be thicker than...
Write the letters in the boxes below to complete the sentence.

T	H	E		U	N	I	V	E	R	S	E
2,912	1,476	1,368	1,446	2,256	1,281	1,077	1,995	1,368	3,945	2,040	1,368

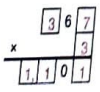
4. A bicycle costs $519.
   A motorcycle costs 5 times as much as the bicycle.
   How much more does the motorcycle cost than the bicycle?
   $519 × 4 = $2,076
   The motorcycle costs $2,076 more than the bicycle.

5. Malik had $3,500 to spend on some office furniture.
   He bought 3 desks. Each desk costs $999.
   How much money does he have left?
   $999 × 3 = $2,997
   $3,500 − $2,997 = $503
   He has $503 left.

Challenge

6. Write the missing digits in each equation to make them true.

   (a) Missing: 1, 3, and 7



   (b) Missing: 2 and 5

Exercise 9

Check

1 Multiply.

143 × 3	2 × 739	690 × 4
429	1,478	2,760
5 × 174	**605 × 4**	**824 × 3**
870	2,420	2,472
999 × 2	**555 × 5**	**4 × 666**
1,998	2,775	2,664

2 Find the missing digits.

(a) $172 \times \square 5 = 860$

(b) $\square\square 9 \times \square 3 = 1,377$

3 A hotel has 452 rooms.

(a) Each room has 3 chairs.
How many chairs are in all the rooms?
$452 \times 3 = 1,356$
There are 1,356 chairs in all the rooms.

(b) There are 2 beds in 355 rooms and 1 bed in the rest of the rooms.
How many beds are there altogether?
$452 - 355 = 97$
$355 \times 2 = 710$
$710 + 97 = 807$
There are 807 beds altogether.

(c) A room costs $159 a night Sunday through Thursday and $178 a night Friday and Saturday.
What does it cost to stay at the hotel for a whole week?
$159 \times 5 = \$795$
$178 \times 2 = \$356$
$\$795 + \$356 = \$1,151$
It costs $1,151 to stay at the hotel for a whole week.

Challenge

4 The Chens stayed at the hotel for 3 nights.
They rented 2 rooms with two beds and 1 room with a single bed.
The room with two beds costs $159 a night and the room with a single bed costs $172 a night.
How much did they spend?
$159 \times 2 \times 3 = \$159 \times 6 = \$954$
$172 \times 3 = \$516$
$\$954 + \$516 = \$1,470$
They spent $1,470.

5 Each symbol stands for a different digit.
Find the digits.

■● + 3 = ■★
24 27

■● × 3 = ★■
24 72

■ = 2
● = 4
★ = 7

■ must be 1, 2, or 3, since multiplying ■ tens by 3 is a 2-digit number.
● must be less than 7, since adding 3 does not change the tens digit.
● × 3 has to have 1, 2, or 3 (■) in the ones place.
So ● could be 1 or 4 and ■ can't be 1.
Try 21, 24, 31, 34. Only 24 works.

Exercise 1 • pages 157–158

Chapter 6 Division

Exercise 1

Basics

1 (a) 8 ones ÷ 4 = 2 ones
= 2

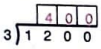
(b) 8 tens ÷ 4 = 2 tens
= 20

(c) 8 hundreds ÷ 4 = 2 hundreds
= 200

2 (a) 12 ones ÷ 3 = 4 ones
= 4

(b) 12 tens ÷ 3 = 4 tens
= 40

(c) 12 hundreds ÷ 3 = 4 hundreds
= 400



Practice

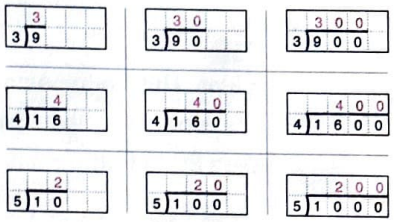
3 (a) 4 hundreds ÷ 2 = 2 hundreds = 200

(b) 15 tens ÷ 3 = 5 tens = 50

(c) 20 hundreds ÷ 4 = 5 hundreds = 500

(d) 25 tens ÷ 5 = 5 tens = 50

4 Divide.



Challenge

5 (a) 40 tens ÷ 2 = 200

(b) 20 tens ÷ 5 = 40

6 Find the sum of 40 tens and 2 hundreds divided by 3.

400 ÷ 200 = 600
600 ÷ 3 = 200

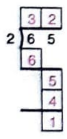
Exercise 2 • pages 159–160

Exercise 2

Basics

1 Fill in the missing digits and numbers.

(a) Divide 65 by 2.



First, divide 6 tens by 2 to get 3 tens with 0 tens left over.

Then, divide 5 ones by 2 to get 2 ones with 1 left over.

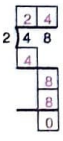
65 ÷ 2 is 32 with a remainder of 1.

60 5

65 ÷ 2 is 32 R 1

Check: 32 × 2 + 1 = 65

(b) Divide 48 by 2.



48 ÷ 2 = 24

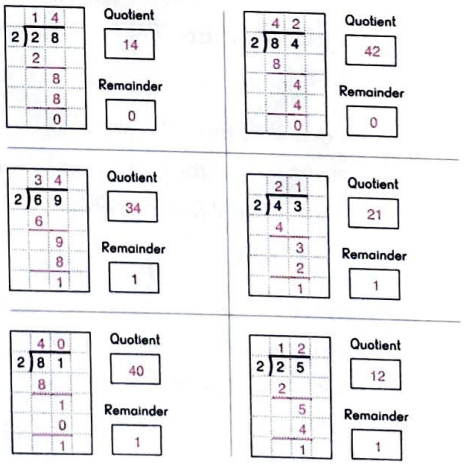
40 8

The remainder is 0.

Check: 24 × 2 = 48

Practice

2 Find the quotient and remainder.



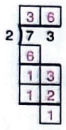
3 A paddle boat holds 2 people.
How many paddle boats are needed for 27 people?
14 paddle boats

Exercise 3

Basics

1 Fill in the missing digits and numbers.

(a) Divide 73 by 2.



First, divide 7 tens by 2 to get

3 tens with 1 ten left over.

Then, divide 13 ones by 2 to get

6 ones with 1 left over.

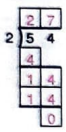
73 ÷ 2 is 36 with a remainder of 1.

60 13

Check: 36 × 2 + 1 = 73

Is 73 an odd or an even number? odd

(b) Divide 54 by 2.



54 ÷ 2 = 27

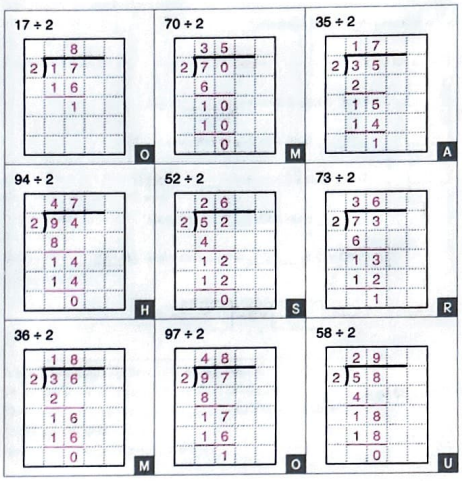
40 14

The remainder is 0.

Check: 27 × 2 = 54

Practice

2 Divide.



Riddle: What kind of room has no doors or windows?
Write the letters in the boxes below to find out.

	A		M	U	S	H	R	O	O	M
48	17 R 1	26 R 1	18	29	26	47	36 R 1	8 R 1	48 R 1	35

3 Megan wants to put 52 cookies evenly into 2 cookie jars.
How many cookies will be in each jar?
52 ÷ 2 = 26
26 cookies will be in each jar.

4 A tailor is sewing 2 buttons on each cuff of a jacket.
He has 58 buttons.
How many jackets can he sew buttons on both cuffs?
58 ÷ 2 = 29 (cuffs)
29 ÷ 2 is 14 R 2
He can sew buttons on 14 jackets.

Challenge

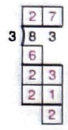
5 Mei is holding a card with an even number in one hand, and a card with an odd number in the other hand.
Dion tells her to triple the value of the card in her right hand and double the value of the card in her left hand, and then add the two products.
If the sum is even, which hand is holding the even card?
If the sum is even, both products must be even.
If you triple an odd number, the product is odd.
If you double an odd number, or double or triple an even number, the product is even.
If her right hand held an odd card, the sum would be odd.
Her right hand is holding the even card.

Exercise 4

Basics

1 Fill in the missing digits and numbers.

(a) Divide 83 by 3.



First, divide 8 tens by 3 to get 2 tens with 2 tens left over.

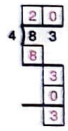
Then, divide 23 ones by 3 to get 7 ones with 2 left over.

83 ÷ 3 is 27 with a remainder of 2.

60 23

Check: 27 × 3 + 2 = 83

(b) Divide 83 by 4.



83 ÷ 4

80 3

The quotient is 20.

The remainder is 3.

Check: 20 × 4 + 3 = 83

Practice

2 Divide.

46 ÷ 3 = 15 R 1 (A)	60 ÷ 4 = 15 (S)	72 ÷ 5 = 14 R 2 (I)
58 ÷ 5 = 11 R 3 (R)	72 ÷ 3 = 24 (blank)	87 ÷ 4 = 21 R 3 (V)
54 ÷ 4 = 13 R 2 (F)	90 ÷ 5 = 18 (E)	85 ÷ 3 = 28 R 1 (P)

How many hearts does the common earthworm have?
Write the letters (or blank for space) in the boxes below to find out.

F	I	V	E		P	A	I	R	S	
13 R 2	14 R 2	21 R 3	18	24	28 R 1	15 R 1	14 R 2	11 R 3	15	13 R 3

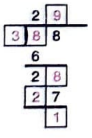
3 Jamal collected 78 cans of food for a food bank drive.
He collected 3 times as many cans as Landon.
How many cans did Landon collect?
78 ÷ 3 = 26
Landon collected 26 cans.

4 A car can hold 5 people.
What is the fewest number of cars needed for 62 people?
62 ÷ 5 is 12 R 2
The fewest number of cars needed is 13 cars.

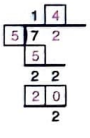
Challenge

5 Write the missing digits.

(a)



(b)



Exercise 5

Check

1 Divide.

98 ÷ 3 = 32 R 2	57 ÷ 4 = 14 R 1	85 ÷ 5 = 17
99 ÷ 5 = 19 R 4	99 ÷ 3 = 33	99 ÷ 4 = 24 R 3

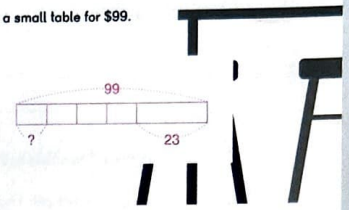
2 83 ÷ 3 is 27 with a remainder of 2.

3 Circle the even numbers.

(98) 37 (50) 45 (100)

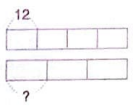
4 Max bought 4 identical stools and a small table for $99.
The table cost $23.
How much did each stool cost?

99 − 23 = 76
76 ÷ 4 = 19
Each stool cost $19.

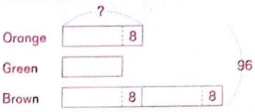


5 Violet has a 4 boxes of 12 markers.
She and her two friends share them equally.
How many markers will each friend get?

4 × 12 = 48
48 ÷ 3 = 16
Each friend will get 16 markers.



6 A box has orange, green, and brown beads.
There are 8 more orange beads than green beads.
There are twice as many brown beads as orange beads.
There are 96 beads in all.
How many orange beads are there?



or:
3 × 8 = 24
96 − 24 = 72
72 ÷ 4 = 18
18 + 8 = 26

96 + 8 = 104
104 ÷ 4 = 26
There are 26 orange beads.

Check:
Green: 26 − 8 = 18
Brown: 26 × 2 = 52
26 + 18 + 52 = 96 ✓

Challenge

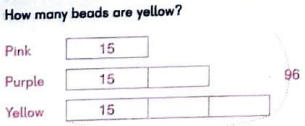
7 List the odd numbers between 0 and 50 that have a remainder of 4 when divided by 5.

9, 19, 29, 39, 49

8 Taylor has a box of red and blue beads.
For every red bead, there are two blue beads.
There are 96 beads in all.
How many of the beads are blue?

Make groups of red and blue beads.
96 ÷ 3 = 32 groups of 1 red and 2 blue
2 × 32 = 64
64 of the beads are blue.

9 A box has pink, purple, and yellow beads.
There are 15 pink beads, more purple than pink beads, and more yellow than purple beads.
There are 96 beads in all.
The difference between the number of pink and purple beads is the same as the difference between the number of purple and yellow beads.
How many beads are yellow?



3 × 15 = 45
96 − 45 = 51
51 ÷ 3 = 17
17 × 2 = 34
34 + 15 = 49
49 of the beads are yellow.

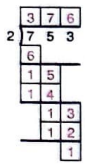
Check:
Purple: 15 + 17 = 32
15 + 32 + 49 = 96 ✓

Exercise 6

Basics

1 Fill in the missing digits and numbers.

Divide 753 by 2.



First, divide 7 hundreds by 2 to get

___3___ hundreds with 1 hundred left over.

Then, divide ___15___ tens by 2 to get

___7___ tens with 1 ten left over.

Then, divide ___13___ ones by 2 to get

6 ones with ___1___ left over.

753 ÷ 2 is ___376___ with a remainder of ___1___.

600 140 13

Check: [376] × 2 + [1] = 753

Is 753 an odd or an even number? ___odd___

---

2 What will be the remainder when 374 is divided by 2? ___0___

Practice

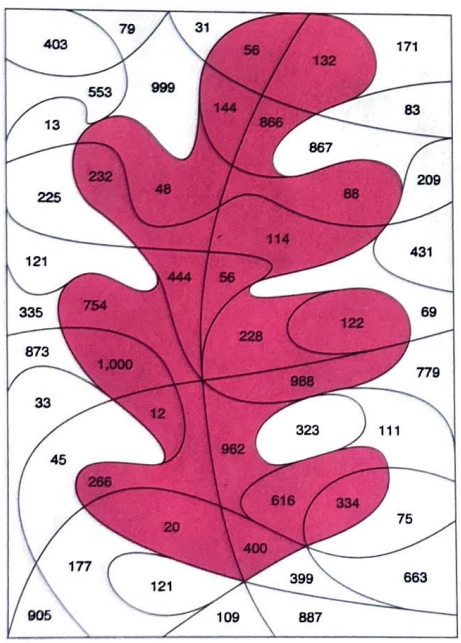
3 Divide.

414 ÷ 2	700 ÷ 2	687 ÷ 2	505 ÷ 2
207	350	343	252 R 1
R	A	E	D
278 ÷ 2	**350 ÷ 2**	**853 ÷ 2**	**906 ÷ 2**
139	175	426 R 1	453
E	E	N	L

Riddle: It has one eye but cannot see.
What is it?
Write the letters (or blank for space) in the boxes below to find the answer.

A		N	E	E	D	L	E	
350	207	426 R 1	343 R 1	175	252 R 1	453	139	174 R 1

4 Color the spaces that contain an even number.



5 A store sold twice as many burritos on Saturday than it sold on Friday.
It sold 318 burritos on Saturday.
How many burritos did the store sell on Friday?

318 ÷ 2 = 159

The store sold 159 burritos on Friday.

6 Divide 256 by 2.
Divide the quotient again by 2.
Continue until you get a quotient of 2.
How many times did you divide by 2?

256 ÷ 2 = 128
128 ÷ 2 = 64
64 ÷ 2 = 32
32 ÷ 2 = 16
16 ÷ 2 = 8
8 ÷ 2 = 4
4 ÷ 2 = 2

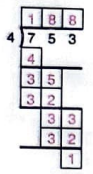
7 times

Exercise 7

Basics

1 Fill in the missing digits and numbers.

(a) Divide 753 by 4.



First, divide 7 hundreds by 4 to get

1 hundred with 3 hundreds left over.

Then, divide 35 tens by 4 to get

8 tens with 3 tens left over.

Then, divide 33 ones by 4 to get

8 ones with 1 left over.

753 ÷ 4 is 188 with a remainder of 1.

400 320 33

Check: 188 × 4 + 1 = 753

(b) Divide 824 by 4.

824 ÷ 4 = 200 + 6 = 206

800 24

Practice

2 Divide.

743 ÷ 4	816 ÷ 3	634 ÷ 5	426 ÷ 4
185	272	126	106
A	T	R	I

700 ÷ 3	908 ÷ 4	815 ÷ 5	626 ÷ 3
233	227	163	208
A	S	U	L

What is the only continent that does not have an active volcano?
Write the letters in the boxes below to find the answer.

A	U	S	T	R	A	L	I	A
233 R 1	163	227	272	126 R 4	185 R 3	208 R 2	106 R 2	233 R 1

3 Gavin collected $935 selling raffle tickets for a fund raiser.
Each raffle ticket cost $5.
How many raffle tickets did he sell?

935 ÷ 5 = 187

He sold 187 raffle tickets.

4 Divide 256 by 4.
Divide the quotient again by 4.
Continue until you get a quotient of 4.
How many times did you divide by 4?

256 ÷ 4 = 64

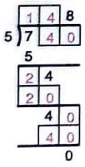
64 ÷ 4 = 16

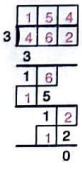
16 ÷ 4 = 4

3 times

Challenge

5 Write the missing digits.



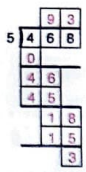


Exercise 8

Basics

1 Fill in the missing digits and numbers.

(a) Divide 468 by 5.



First, divide 46 tens by 5 to get

9 tens with 1 ten left over.

Then, divide 18 ones by 5 to get

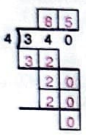
3 ones with 3 left over.

468 ÷ 5 is 93 with a remainder of 3.

450 18

Check: 93 × 5 + 3 = 468

(b) Divide 340 by 4.



First, divide 34 tens by 4 to get

8 tens with 2 tens left over.

Then, divide 20 ones by 4 to get

5 ones with 0 left over.

340 ÷ 4 = 85

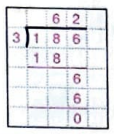
320 20

Check: 85 × 4 = 340

Practice

2 Divide.

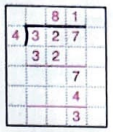
186 ÷ 3



151 ÷ 2

485 ÷ 5

327 ÷ 4



206 ÷ 3

347 ÷ 4

Put the quotients you found above in order from least to greatest.
Find the sum of the middle two numbers.
The answer should be 156.
62, 68, 75, 81, 86, 97
75 + 81 = 156

3 Circle the expressions where the quotient will be a 2-digit number.

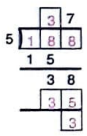
443 ÷ 2	309 ÷ 4	287 ÷ 3	638 ÷ 5
743 ÷ 3	500 ÷ 2	487 ÷ 5	333 ÷ 4

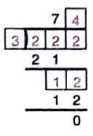
4 An orchard has 255 apple trees.
It has 3 times as many apple trees as pear trees.
How many pear trees does the orchard have?
255 ÷ 3 = 85
The orchard has 85 pear trees.

5 Alex has 59 blue craft sticks, 68 red craft sticks, and 32 yellow craft sticks.
It takes 4 craft sticks to make a picture frame.
How many craft sticks will be left over after he makes as many picture frames as he can?
59 + 68 + 32 = 159
159 ÷ 4 is 39 R 3
He will have 3 craft sticks left over.

Challenge

6 Write the missing digits.





Exercise 9

Check

1 Divide.

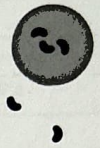
399 ÷ 2 199 R 1 E	399 ÷ 3 133 I	399 ÷ 4 99 R 3 Y
399 ÷ 5 79 R 4 U	275 ÷ 5 55 C	735 ÷ 4 183 R 3 O
854 ÷ 3 284 R 2 R	570 ÷ 2 285 V	218 ÷ 4 54 R 2 O

Riddle: You can hear it, but not touch or see it.
What is it?
Write the letters in the boxes below to find out.

Y	O	U	R		V	O	I	C	E
99 R 3	183 R 3	79 R 4	284 R 2	183	285	54 R 2	133	55	199 R 1

2 Sasha is decorating cookies with candy stars.
Each cookie gets 5 stars.
She used 690 stars.
How many cookies did she decorate?
690 ÷ 5 = 138
She decorated 138 cookies.

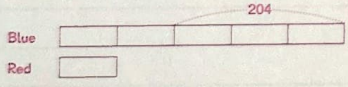
3 Tiara is decorating 82 round cookies and some heart-shaped cookies.
Each cookie gets 3 jelly beans.
She uses 456 jelly beans.
How many heart-shaped cookies did she decorate?
456 ÷ 3 = 152
152 − 82 = 70
She decorated 70 heart-shaped cookies.



4 Ryan is decorating cookies with gum drops and cinnamon hearts.
Each cookie gets 3 gum drops and 5 cinnamon hearts.
He has 160 gum drops and 240 cinnamon hearts.
What is the greatest number of cookies he can decorate?
160 ÷ 3 is 53 R 1
240 ÷ 5 = 48
The greatest number of cookies he can decorate is 48.

Challenge

5 A jar had 5 times as many blue beads as red beads.
After 204 blue beads were used for an art project, there were twice as many blue beads as red beads.
How many blue beads are left?



204 ÷ 3 = 68
68 × 2 = 136
There are 136 blue beads left.

6 There are some row boats.
The boats are either doubles with 2 oars, or quads with 4 oars.
There are 260 oars and 100 row boats.
How many doubles and how many quads are there?
Hint: If they were all doubles, how many oars are there?
100 × 2 = 200
200 oars used so far, each boat has 2 oars.
260 − 200 = 60
60 oars left, put 2 in some boats.
60 ÷ 2 = 30
30 boats with 2 more, or 4 oars
100 − 30 = 70
70 doubles and 30 quads.

Check:
70 × 2 = 140
30 × 4 = 120
140 + 120 = 260 ✓

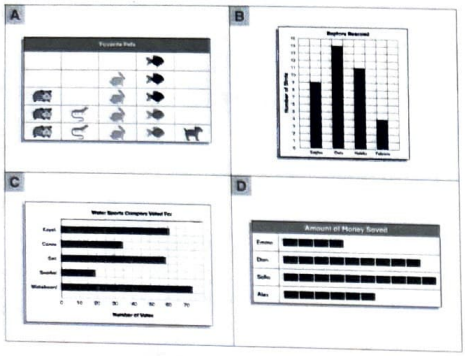
If students struggle, have them do the problem as if 26 oars and 10 boats, and draw pictures of the boats, putting 2 oars in each first, then 2 more with the left over oars. Point out that not all problems are best solved with bar models. If using a bar model is not helping, try a different approach.

Chapter 7 Graphs and Tables

Exercise 1

Basics

1 Look at the graphs shown here.



(a) Which are picture graphs? A, D

(b) Which are bar graphs? B, C

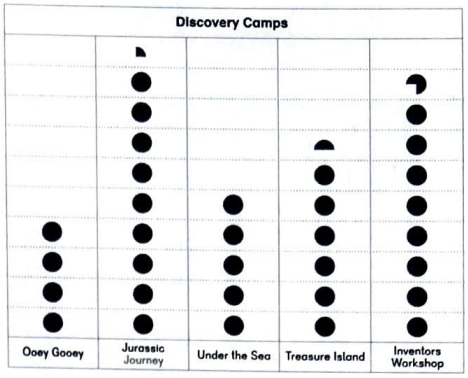
(c) Which type of graph has a numerical scale on one side of the graph?

Bar graph

(d) How many categories are there in graph C? 5

Practice

2 This picture graph shows the number of children that signed up for different Discovery Camps at the Community Center last summer.



Each ● stands for 4 children.

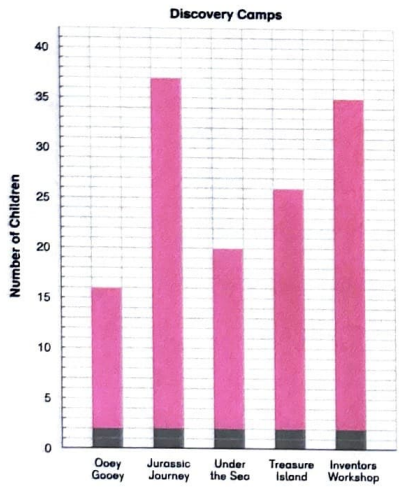
(a) List the summer camps in order from most popular to least popular.

Jurassic Journey, Inventors Workshop, Treasure Island, Under the Sea, Ooey Gooey

(b) How many more children signed up for Inventor's Workshop than for Treasure Island? 9

(c) How many fewer children signed up for Ooey Gooey than for Jurassic Journey? 21

(d) Complete this bar graph with the information from the picture graph.



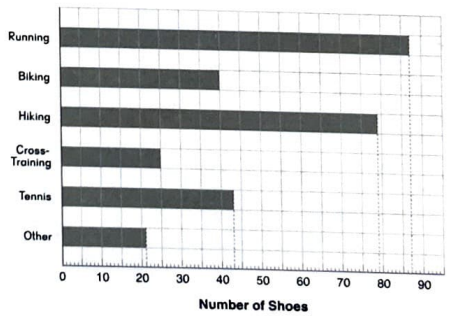
(e) The scale is numbered in increments of 5

(f) Each tick mark on the graph shows an increment of 1.

(g) On which type of graph is it easier to read the numbers for each category?

Bar Graph

3 This bar graph shows the number of each kind of shoe sold by a sports store over a period of time.



(a) The scale is numbered in increments of 10.

(b) Each square ☐ on the graph shows increments of 5.

(c) Each tick mark on the graph shows increments of 1.

(d) Which type of shoe did they sell the most of? Running

(e) Which two types of shoes did they sell almost the same number of?

Biking and Tennis

(f) The store also sells water sport shoes and golf shoes. Under which category are these shoes graphed?

Other

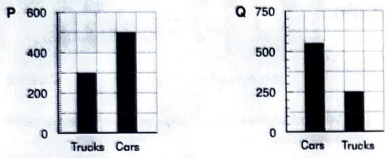
(g) Use the information from the graph to complete the table.

Shoe	Running	Biking	Hiking	Cross-training	Tennis	Other
Number	87	40	79	25	43	21

(h) How many more running shoes than tennis shoes were sold? 44

(i) How many fewer biking shoes than hiking shoes were sold? 39

4 These two graphs were created to show the results from counting the number of each type of vehicle that parked at two parking garages.



(a) Which garage had more cars? Q

(b) How many trucks were in each parking garage?

P 300

Q 250

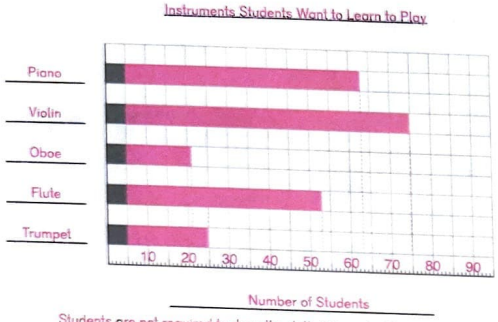
Exercise 2

Basics

1 Chapa surveyed some students to find out which musical instrument they wanted to learn how to play.

Instrument	Number
Piano	63
Violin	75
Oboe	21
Flute	53
Trumpet	25

(a) Complete the bar graph below with this information.
Order of categories may vary.

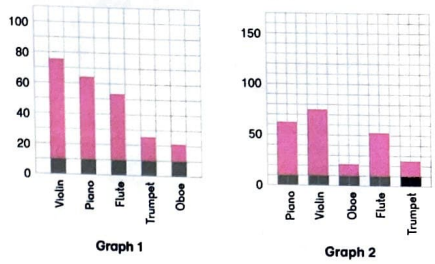


Students are not required to draw the dotted lines, but they can use a ruler to determine where the bars should end.

(b) List the instruments in order from most popular to least popular.

Violin, Piano, Flute, Trumpet, Oboe

(c) Graph the same information on the two graphs below.



(d) What differences do you notice between the two graphs?
Answers will vary. Examples:
The scales are different. The scale on the graph on the left has smaller increments.
The categories are in a different order between the two graphs.

Practice

2 Andrew wanted to find out which color is the most popular for cars. He tallied the number of cars he saw of different colors passing in front of his apartment building in an hour, and recorded his information in a table.

Color	Number
White	57
Black	60
Blue	48
Gray/Silver	87
Red	30
Brown/Beige	3
Other	15

(a) Create a bar graph for this information on the next page.

(b) Under which category did Andrew put green cars? Other

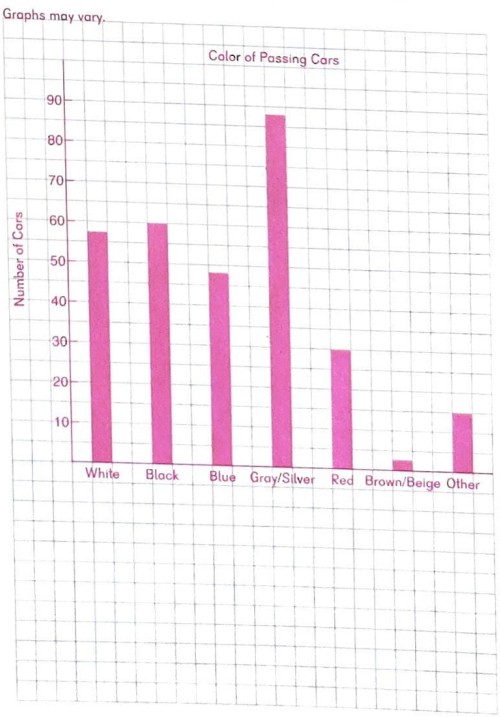
(c) Under which category would he put cars that are more than one color?
Other

(d) Under which category did he likely put tan cars? Brown/Beige

(e) Which car color is most popular? Gray/Silver

(f) Which are the three most popular colors? Gray/Silver, Black, White

Graphs may vary.



Exercise 3

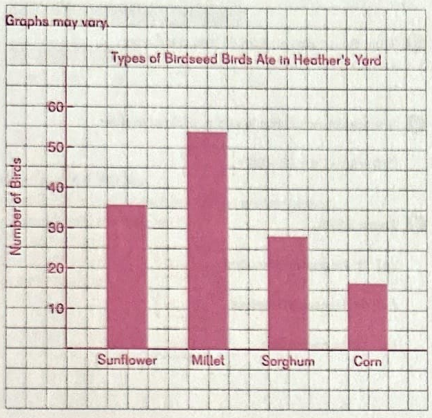
Check

1. Heather wanted to find out which type of bird seed the birds that came to her backyard preferred.
She put the birdseeds in different bird feeders and then counted the number of birds that came to each feeder for a period of time.

Birdseed	Sunflower	Millet	Sorghum	Corn
Number of birds	36	54	28	17

(a) Create a bar graph for this information.

Graphs may vary.



(b) List the birdseed types from most popular to least popular.
Millet, Sunflower, Sorghum, Corn

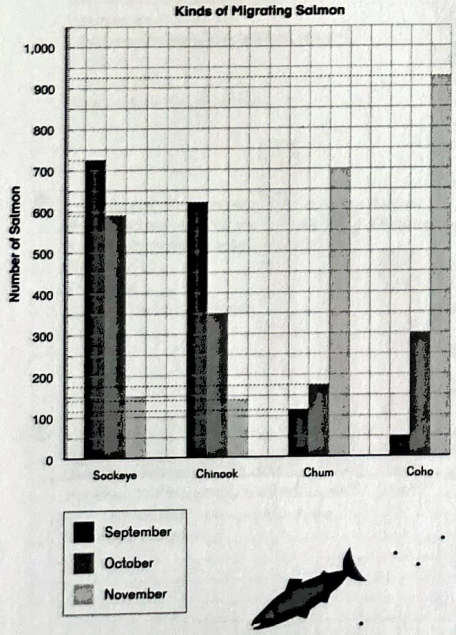
(c) How many more birds came to eat the millet than the corn? 37

(d) Is there another way she could collect data to find out which type of seed was most popular that would be easier than counting birds?
She could weigh or measure the amount of the birdseed before and after a period of time.

2. Create a picture graph in the space below for Heather's data.
Decide what kind of symbol to use, whether it should stand for 2, 3, 4, or 5 birds, and how to represent numbers that do not divide evenly.

Answers will vary.

3. This graph shows the number of four kinds of salmon that were migrating up a stream on the first day of three different months.



(a) Which kind of salmon migrate primarily in September and October?
Sockeye, Chinook

(b) Which kind of salmon migrate primarily in November?
Chum, Coho

(c) Complete the table using the information from the graph.

	September	October	November
Sockeye	725	590	150
Chinook	620	350	140
Chum	115	175	700
Coho	50	300	925

(d) List each kind of salmon in order from least to greatest number counted. (Use estimation)
Sockeye, Coho, Chinook, Chum

(e) How many more Coho were counted in November than in September and October combined?
300 + 50 = 350
925 − 350 = 575

(f) How many fewer Chinook were counted in November than in September and October combined?
620 + 350 = 970
970 − 140 = 830

Exercise 4

Check

1 Find the value.

897 + 219 897 + 219 = 1,116	806 + 7,496 806 + 7,496 = 8,302	6,399 + 2,402 6,399 + 2,402 = 8,801
3,290 − 524 3,290 − 524 = 2,766	9,751 − 5,438 9,751 − 5,438 = 4,313	7,006 − 1,528 7,006 − 1,528 = 5,478
67 × 3 67 × 3 = 201	570 × 2 570 × 2 = 1,140	4 × 864 4 × 864 = 3,456
58 ÷ 3 58 ÷ 3 = 19 R 1	570 ÷ 4 570 ÷ 4 = 142 R 2	218 ÷ 5 218 ÷ 5 = 43 R 3

2 Write >, <, or = in the ◯.

(a) 7,632 (>) 700 + 6,000 + 30 + 2

(b) 400 + 5,000 + 90 (<) 5,100 + 490

(c) 320 tens (>) 20 hundreds + 100 tens

(d) 4,968 + 3,125 (>) 9,207 − 3,895

(e) 385 + 543 + 220 + 50 (<) 498 + 420 + 90 + 487

(f) 444 × 5 (=) 555 × 4

3 Write the number word for 48 tens and 6 ones.

four hundred eighty-six

4 Use mental calculation to add or subtract in order.

360 + 80 − 70 + 98 − 68 = 400

5 Round 8,285...

(a) To the nearest thousand. 8,000

(b) To the nearest hundred. 8,300

(c) To the nearest ten. 8,290

6 Katie estimates 5,688 + 2,042 by calculating 6,000 + 2,000.
Will the estimated answer be greater or less than the actual answer?

The estimated answer will be greater than the actual answer, since 5,688 is farther from 6,000 than 2,042 is from 2,000.

7 Circle the values that can be evenly divided by 2.

(235 + 347) 172 + 621 (82 + 788)

47 × 5 (44 × 3) (236 × 4)

8 Landon picked up trash one day at the park.
He kept track of how many items of each kind of trash he picked up and made this table.

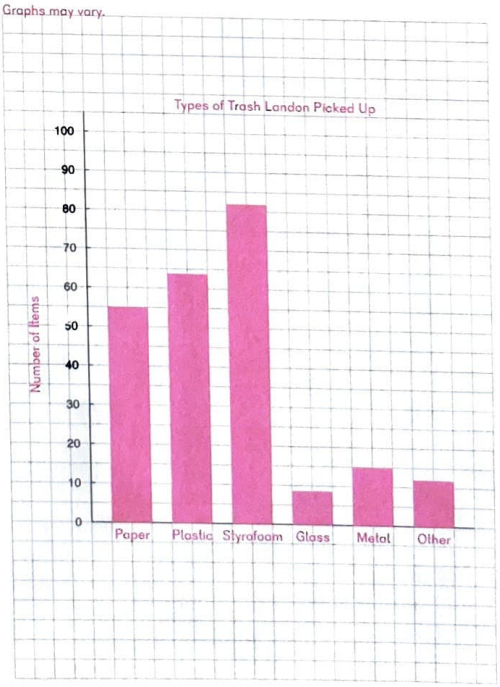
Paper	Plastic	Styrofoam	Glass	Metal	Other
55	64	82	8	15	12

(a) Complete bar graph for this information on the next page.

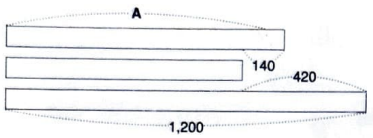
(b) Which kind of trash did he find the most of?
Styrofoam

(c) How many more of the three most common types of trash did he pick up than the rest?
He picked up 166 more pieces of the three most common types of trash.

Graphs may vary.

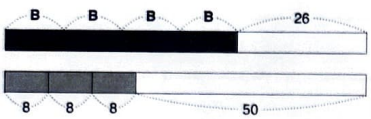


9 (a) Find **A**.



1,200 − 420 = 780
780 + 140 = 920
or
420 − 140 = 280
1,200 − 280 = 920
A = 920

(b) Find **B**.



3 × 8 = 24
24 + 50 = 74
74 − 26 = 48
48 ÷ 4 = 12
B = 12

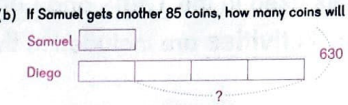
10 A builder bought 4,500 tiles.
She used 2,700 on one project and 860 on another project.
How many tiles did she have left?

2,700 + 860 = 3,560
4,500 − 3,560 = 940
He had 940 tiles left.

11 Diego has 4 times as many coins as Samuel.
Altogether, they have 630 coins.

(a) How many more coins does Diego have than Samuel?

(b) If Samuel gets another 85 coins, how many coins will he have?



630 ÷ 5 = 126
126 × 3 = 378
Diego has 378 more coins than Samuel.

126 + 85 = 211
He will have 211 coins.

12 Darryl bought 75 m of cloth to make banners.
He used 2 m of cloth for each banner.

(a) How many banners could he make?

(b) He sold 15 of the banners for $5 each and the rest for $4 each.
How much money did he make?

75 ÷ 2 is 37 R 1
He could make 37 banners.

37 − 15 = 22
15 × $5 = $75
22 × $4 = $88
$75 + $88 = $163
He made $163.

Challenge

13 Some books were stacked in piles of 5.
There were 22 piles with 4 left over.
How many would be left over
if they were stacked in piles of 4 instead?

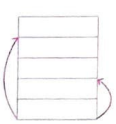
22 × 5 + 4 = 114
114 ÷ 4 is 28 R 2
There would be 2 books left over.

14 Maryanna wrote her name many times on a piece of paper.
She counted and found that she wrote the letter A 126 times.
How many times did she write the letter N?

126 ÷ 3 = 42
42 × 2 = 84
She wrote the letter N 84 times.

15 A building has 5 stories that are all the same height.
How many times as much is the ascent from the 1st floor to the 5th floor
than the ascent from the 1st floor to the 3rd floor?

The ascent from the 1st floor to the 5th floor
is two times as much as the ascent from the
1st floor to the 3rd floor.



Dimensions Math® Teacher's Guide 3A