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Teacher's Guide 2A

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Chapter 1 Numbers to 1,000

Exercise 1

Basics

1 Fill in the missing numbers.

(a)

8 tens and [6] ones make 86.

[6] more than 80 is 86.

80 + [6] = 86

(b)

[60] + 8 = 68 | 68 − [8] = 60

8 + [60] = 68 | [68] − 60 = 8

(c) 90 and 7 make [97].

[90] more than 7 is 97.

[7] less than 97 is 90.

1-1 Tens and Ones   1

Practice

2 (a) 40 + 9 = [49] (b) 3 + 80 = [83]

60 + [2] = 62   [20] + 8 = 28

74 − 4 = [70]   51 − 50 = [1]

[95] − 5 = 90   [88] − 80 = 8

3 Write the numbers.

(a) 4 tens and 8 ones   (b) seventy-two

[48]   [72]

(c) twenty-eight   (d) 7 ones and 3 tens

[28]   [37]

(e) four more than ninety   (f) three less than thirty-three

[94]   [30]

Challenge

4 (a) 71 is [6] tens and 11 ones.

(b) 59 is 4 tens and [19] ones.

(c) 82 is 5 tens and [32] ones.

(d) 49 is 1 ten and [39] ones.

2   1-1 Tens and Ones

Exercise 2

Basics

1 (a) Count on by ones and write the numbers between 35 and 43.

| 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 |

(b) Count back by ones and write the numbers between 83 and 75.

| 83 | 82 | 81 | 80 | 79 | 78 | 77 | 76 | 75 |

(c) Count on by tens and write the numbers between 5 and 85.

| 5 | 15 | 25 | 35 | 45 | 55 | 65 | 75 | 85 |

(d) Count back by tens and write the numbers between 99 and 19.

| 99 | 89 | 79 | 69 | 59 | 49 | 39 | 29 | 19 |

2 (a) 2 more than 68 is [70]   2 less than 68 is [66]

20 more than 68 is [88]   20 less than 68 is [48]

(b) 3 more than 52 is [55]   3 less than 52 is [49]

30 more than 52 is [82]   30 less than 52 is [22]

3   1-2 Counting by Tens or Ones

Practice

3 Complete the number patterns.

(a) | 73 | 75 | **77** | 79 | 81 | 83 |

(b) | 43 | 53 | 63 | 73 | 83 | 93 |

(c) | 73 | 76 | 79 | 82 | 85 | 88 |

(d) | 89 | **79** | 69 | 59 | 49 | 39 |

4 (a) 82 + 2 = [84]   (b) 82 − 2 = [80]

(c) 58 + 3 = [61]   (d) 58 − 3 = [55]

(e) 42 + 20 = [62]   (f) 67 − 30 = [37]

5 (a) 45 + [3] = 48   (b) 87 − [30] = 57

(c) [74] + 20 = 94   (d) [50] − 1 = 49

(e) [2] + 39 = 41   (f) [24] − 20 = 4

Challenge

6 Sofia is putting together a picture album.
She puts 26 pictures in the album on Monday.
Each day, she adds 3 more pictures to the album.
How many pictures will be in the album after she
adds pictures on Thursday?   35 pictures

26 + 3 = 29 (Tues)
29 + 3 = 32 (Wed)
32 + 3 = 35 (Thu)

4   1-2 Counting by Tens or Ones

Exercise 3

Basics

1 Compare the numbers and fill in the blanks.

(a)

Tens	Ones
7	6

Tens	Ones
7	8

78 is greater than 76.

76 is less than 78.

(b)

Tens	Ones
5	6

Tens	Ones
7	6

76 > 56

56 < 76

Practice

2 Write > or < in the ◯.

(a) 82 > 28   (b) 93 < 95

(c) 33 < 63   (d) 55 > 45

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

96	69
63	
93	39

39 63 69 93 96

4 Circle the numbers below that are less than 84 but greater than 57.

(67) 98 48 (65) 87 (78) (75)

5 Write >, <, or = in the ◯.

(a) 4 tens 5 ones < 54   (b) 78 = 8 ones 7 tens

(c) 40 + 7 > 30 + 7   (d) 7 + 60 = 60 + 7

(e) 65 – 5 > 40 + 5   (f) 59 + 20 = 89 – 10
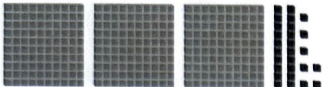
(g) 32 + 2 < 22 + 20   (h) 89 + 3 = 94 – 2

(i) 1 less than 4 tens 6 ones > 20 more than 2 tens 4 ones
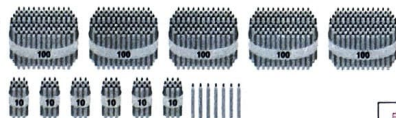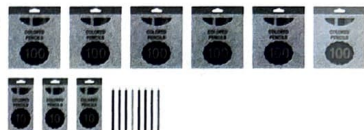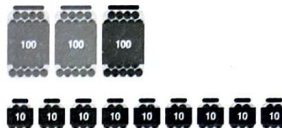
Exercise 4

Basics

1 (a)

2 hundreds, 7 tens, and 5 ones make 275.

(b)

3 hundreds, 2 tens, and 7 ones make 327.

(c)

4 hundreds and 3 ones make 403.

(d)

1 hundred and 9 tens make 190.

Practice

2 Write the number.

(a) 567

(b) 638

(c) 390

(d) 403

3 Match.

five hundred sixty-three	871
eight hundred seventy-one	212
one hundred ninety	928
one hundred nineteen	563
nine hundred twenty-eight	255
two hundred twelve	190
two hundred fifty-five	119

4 Write the number.

(a) seven hundred four — 704

(b) three hundred forty — 340

(c) eight hundred thirty-seven — 837

(d) one hundred eleven — 111

5 Write the number words.

(a) 105 — one hundred five

(b) 248 — two hundred forty-eight

(c) 360 — three hundred sixty

(d) 991 — nine hundred ninety-one

6 Write the numbers.

(a) 7 hundreds, __2__ tens, and 6 ones make 726.

(b) 434 is 4 hundreds, 3 tens, and __4__ ones.

(c) 7 ones, __4__ hundreds, and 6 tens make 467.

(d) 8 ones and 8 hundreds make __808__.

(e) 930 is __3__ tens and 9 hundreds.

Challenge

7 Write the numbers.

(a) 3 hundreds, __14__ tens, and 6 ones make 446.

(b) 1 hundred, 3 tens, and __30__ ones make 160.

(c) 9 hundreds, 9 tens, and 10 ones make __1,000__.

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Exercise 5

Basics

1. Fill in the place-value chart with the number of hundreds, tens, and ones.
Then write the number shown.

(a)

Hundreds	Tens	Ones
2	5	6

200 + 50 + 6 = **256**

(b)

Hundreds	Tens	Ones
3	0	7

300 + 7 = **307**

(c)

Hundreds	Tens	Ones
6	3	0

600 + 30 = **630**

Practice

2. Write the number.

(a) **595**

(b) **274**

(c) **908**

3. Color to show the number.   Students may color other discs to show the number.

(a) 109

(b) 780

(c) 400 + 40 + 5

4. Complete the chart.
Write the number.

7 + 80 + 300

Hundreds	Tens	Ones
3	8	7

387

The digit 3 is in the _____hundreds_____ place.

5. Complete the chart.
Write the numbers.

4 hundreds, 8 ones

Hundreds	Tens	Ones
4	0	8

408

The digit ___8___ is in the ones place.

The digit ___0___ is in the tens place.

The digit ___4___ is in the hundreds place.

6. (a) 700 + 60 + 5 = **765**   (b) 400 + **6** = 406

(c) **200** + 20 + 2 = 222   (d) 800 + **70** = 870

(e) 30 + 6 + 500 = **536**   (f) **60** + 800 = 860

(g) 10 + **3** + 900 = 913   (h) 7 + **700** = 707

7. Each number is a 3-digit number.
Write the number.

(a) The digit 4 is in the ones place.
The digit in the hundreds place is 6.
0 is in the tens place.   **604**

(b) The digit 7 is in the hundreds place.
The digit 2 is in the ones place.
The total of the digits is 13.   **742**

Challenge

8. (a) 10 ones = **1** ten   (b) 10 tens = **1** hundred

(c) 20 ones = **2** tens   (d) 30 tens = **3** hundreds

(e) 40 ones = **4** tens   (f) 60 tens = **6** hundreds

(g) 52 tens = **5** hundreds 2 tens

(h) 87 tens = 8 hundreds **7** tens

9. Color to show how many in all.   Students may color other discs to
Write the number.   show the number.

(a) 3 hundreds, 60 tens, 20 ones

 920

(b) 8 hundreds, 2 tens, 63 ones

 883

(c) 7 hundreds, 12 tens, 20 ones

 840

(d) 1 hundred, 84 tens, 59 ones

 999

Exercise 6

Basics

1 Compare the numbers and fill in the blanks.

(a)

Hundreds	Tens	Ones
3	1	5

Hundreds	Tens	Ones
1	4	7

315 > 147

147 < 315

(b)

Hundreds	Tens	Ones
1	2	9

Hundreds	Tens	Ones
1	3	3

133 > 129

129 < 133

2 Write the numbers and circle the greatest number.

387

399

(409)

3 Write the numbers and circle the least number.

560

(542)

567

Practice

4 Circle the greatest number.

(a) 843 (873) 487   (b) 597 608 641 (654)

5 Circle the least number.

(a) 843 783 (473)   (b) (65) 506 650 130

6 Use these numbers.

578   572   783   278   748

(a) The least number is __278__.

(b) The greatest number is __783__.

(c) Write the numbers in order from least to greatest.

278 572 578 748 783

(d) List the numbers between 400 and 750.
572, 578, 748

(e) List the numbers less than 70 tens.
278, 572, 578

7 Write > or < in the ○.

(a) 812 (>) 218

(b) 632 (<) 639

(c) 959 (<) 995

(d) 554 (>) 545

(e) eight hundred seventeen (<) eight hundred seventy

(f) four hundred twenty-nine (<) four hundred ninety-one

8 Write >, <, or = in the ○.

(a) 4 hundreds, 6 tens, 8 ones (>) 4 hundreds, 8 ones

(b) 700 + 50 + 9 (>) 80 + 500 + 7

(c) 8 + 90 + 500 (=) 90 + 500 + 8

(d) 80 + 2 (<) 40 + 300

(e) 70 + 600 + 2 (=) 72 + 600

(f) 64 tens (>) 87 ones

9 What is the greatest 3-digit number? __999__

10 What is the least 3-digit number? __100__

Challenge

11 List all the possible 3-digit numbers that can be formed using the following digits. (Use all 3 digits in each number.)

5   1   8

158, 185, 518, 581, 815, 851

Exercise 7

Basics

1 (a) Count on by ones and write the numbers between 496 and 503.

496	497	498	499	500	501	502	503

(b) Count back by ones and write the numbers between 315 and 308.

315	314	313	312	311	310	309	308

(c) Count on by tens and write the numbers between 572 and 642.

572	582	592	602	612	622	632	642

(d) Count back by tens and write the numbers between 949 and 879.

949	939	929	919	909	899	889	879

(e) Count on by hundreds and write the numbers between 35 and 735.

35	135	235	335	435	535	635	735

(f) Count back by hundreds and write the numbers between 706 and 6.

706	606	506	406	306	206	106	6

2 Color to show the number, then write the number.

518

(a) 2 more than 518

520

(b) 2 less than 518

516

(c) 20 more than 518

538

(d) 20 less than 518

498

(e) 200 more than 518

718

(f) 200 less than 518

318

Practice

3 Color to show the number, then write the number.

(a) 200 more than 111

311

(b) 3 less than 412

409

(c) 10 more than 893

903

(d) 20 less than 700

680

4 (a) 824 + 2 = 826

(b) 320 – 10 = 310

(c) 518 + 10 = 528

(d) 367 – 300 = 67

(e) 420 + 100 = 520

(f) 67 – 30 = 37

(g) 20 + 890 = 910

(h) 200 – 1 = 199

5 Complete the number patterns.

(a)

234	334	434	534	634	734

(b)

732	712	692	672	652	632

(c)

230	233	236	239	242	245

(d)

73	273	473	673	873

6 (a) 245 + 100 = 345

(b) 588 – 100 = 488

(c) 922 + 2 = 924

(d) 245 – 10 = 235

(e) 200 + 139 = 339

(f) 429 – 20 = 409

7 Write >, <, or = in the ◯.

(a) 310 + 20 ◯< 210 + 200

(b) 480 – 1 ◯< 480 + 20

(c) 630 + 100 ◯= 930 – 200

(d) 298 + 3 ◯> 308 – 20

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Exercise 8

Check

1 Write the number.

(a) 260

(b) 505

(c) 837

(d) 99

(e) 5 hundreds, 1 ten, and 3 ones   513

(f) 4 tens and 8 ones   48

(g) 6 hundreds and 5 tens   650

(h) 2 more than 6 tens   62

(i) 20 less than 3 hundreds, 8 tens, and 2 ones   362

(j) 100 more than 7 hundreds and 9 ones   809

2 Use the given digits to write the number.

(a) [2] [8] [6]

The digit in the hundreds place is 2 less than the digit in the tens place.

682

(b) [6] [9] [1]

The digit in the ones place is 3 more than the digit in the hundreds place.

619

3 (a) 80 + 9 = 89   (b) 66 − 6 = 60

(c) 500 + 63 = 563   (d) 7 + 200 = 207

(e) 899 + 2 = 901   (f) 680 − 10 = 670

(g) 508 + 100 = 608   (h) 1,000 − 300 = 700

4 Write >, <, or = in the ◯.

(a) 200 + 10 + 5 ⓐ< 90 + 400 + 6

(b) 700 + 30 ⓐ> 90 + 3

(c) 413 − 300 ⓐ< 313 + 20

(d) 82 + 900 ⓐ> 952 − 30

5 Circle the correct number.

(a) The number is greater than 300, less than 460, and has the digit 4 in the tens place.

244   412   ⟨348⟩   364   590

(b) The number is greater than 6 hundreds and 9 tens, less than 80 + 700 + 2, and has the digit 0 in the ones place.

708   910   642   790   ⟨710⟩

Challenge

6 Match the pattern to a number that will be in the pattern when it is continued on.

432, 434, 436, 438, ...	383
309, 409, 509, 609, ...	448
433, 423, 413, 403, ...	168
968, 768, 568, 368, ...	809

7 The numbers 1 to 1,000 are put in a number chart.
The first 6 rows are shown below.
Look for a pattern.

Column A	Column B	Column C	Column D	Column E
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30

Write the rest of the numbers that will be in the row that starts with 861.

| 861 | 862 | 863 | 864 | 865 |

Write the letter of the column where the following numbers will be in the chart.

471   203   560   689   992

Column   A   C   E   D   B

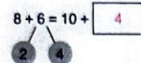Teacher's Guide 2A Chapter 1   35

Chapter 2 Addition and Subtraction — Part 1

Exercise 1

Basics

1 Find the value of 8 + 6.

8 + 6 = 10 + [4]   8 + 6 = [14]

2   4

2 Find the value of 6 + 7.

6 + 7 = [3] + 10   6 + 7 = [13]
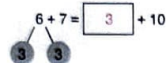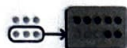
3   3

Practice

3 Circle to make 10.
Write the missing numbers.

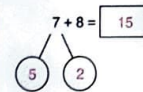Students can make 10 with either addend.

9 + 5 = 10 + [4]
9 + 5 = [14]

8 + 9 = 10 + [7]
8 + 9 = [17]

5 + 8 = 10 + [3]
5 + 8 = [13]

7 + 7 = 10 + [4]
7 + 7 = [14]

4 Complete the number bonds to show addition by making 10.
Fill in the missing numbers.

7 + 4 = [11]
3   1

6 + 9 = [15]
5   1

6 + 6 = [12]
4   2

7 + 8 = [15]
5   2

9 + 8 = [17]
1   7

5 + 6 = [11]
5   1

8 + 8 = [16]
2   6

5 + 7 = [12]
5   2
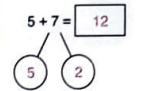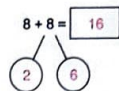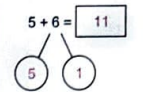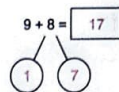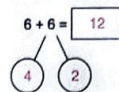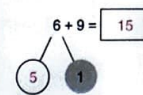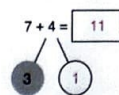
5 (a) 9 + 3 = [12]   (b) 5 + 9 = [14]

(c) 7 + 9 = [16]   (d) 4 + 9 = [13]

(e) 6 + 5 = [11]   (f) 9 + 9 = [18]

(g) 2 + 9 = [11]   (h) 8 + 4 = [12]

Exercise 2

Basics

1 Find the value of 14 – 8 by subtracting from the ten.

10 – 8 = 2

14 – 8 = 2 + 4

14 – 8 = 6

4   10
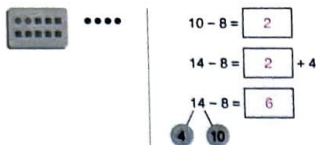
2 Cross off on the ten-frame card.

13 – 6 = 4 + 3

13 – 6 = 7

3   10

13 – 8 = 2 + 3

13 – 8 = 5

3   10

14 – 9 = 1 + 4

14 – 9 = 5

4   10

16 – 7 = 3 + 6

16 – 7 = 9

6   10
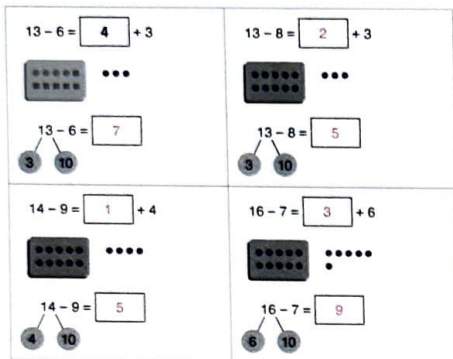
3 Find the value of 12 – 8 by subtracting the ones, then more ones.

12 – 2 = 10

10 – 6 = 4

12 – 8 = 4

8
2   6
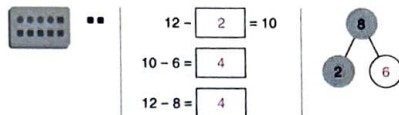
4 Cross off the ones first.

15 – 6 = 10 – 1

15 – 6 = 9

5   1

13 – 5 = 10 – 2

13 – 5 = 8

3   2

12 – 4 = 10 – 2

12 – 4 = 8

2   2

11 – 3 = 10 – 2

11 – 3 = 8

1   2
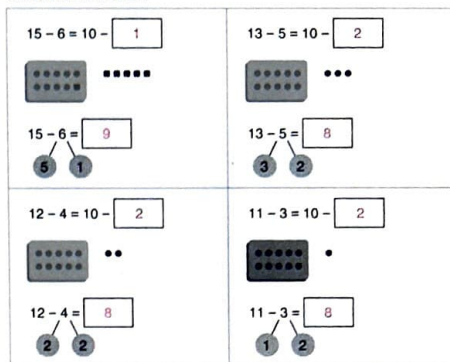
Practice

5 Complete the number bonds.
Fill in the missing numbers.

(a)   15 – 9 = 6

5   10

16 – 7 = 9

6   10

14 – 8 = 6

4   10

17 – 9 = 8

7   10

(b)   13 – 7 = 6

3   4

11 – 8 = 3

1   7

14 – 6 = 8

4   2

12 – 9 = 3

2   7
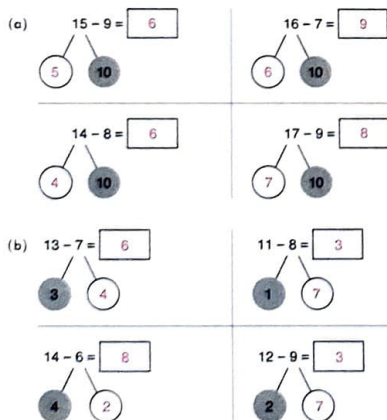
6 (a) 11 – 9 = 2   (b) 13 – 7 = 6

(c) 16 – 8 = 8   (d) 12 – 5 = 7

(e) 13 – 4 = 9   (f) 17 – 8 = 9

(g) 11 – 6 = 5   (h) 13 – 9 = 4

7 Add or subtract the ones.

(a) 5 + 3 = 8   (b) 9 – 3 = 6

15 + 3 = 18   19 – 3 = 16

10   5   10   9

8 (a) 14 + 2 = 16   (b) 16 – 4 = 12

(c) 6 + 8 = 14   (d) 18 – 9 = 9

(e) 9 + 6 = 15   (f) 12 – 7 = 5

(g) 12 + 5 = 17   (h) 17 – 4 = 13

(i) 4 + 8 = 12   (j) 14 – 5 = 9

Challenge

9 The numbers at the corners of the triangles
add up to the number between them.
Find the missing numbers.

(a)   4
       11   10
     7   13   6

(b)   9
       15   16
     6   13   7

Exercise 3

Basics

1. Complete the number bond using the information in the model.
Complete the equation and find the missing number.

(a)
whole

$8 + 4 = 12$
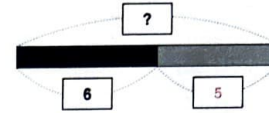
8 part   4 part

(b)
$12 - 4 = 8$

(c)
$12 - 7 = 5$

(d)
$12 + 7 = 19$

Practice

2. Decide if the problem is asking for a whole or a part.
Write the missing numbers on the model with the numbers from the problem.
Use question mark for what the problem asks for.
Write an equation.

(a) There are 6 birds at the feeder.
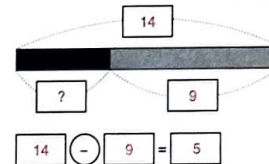5 more birds come.
Now how many birds are at the feeder?

?
6   5

$6 + 5 = 11$

There are ___11___ birds at the feeder.

(b) 14 dogs are in the dog park.
After some leave, there are still 9 dogs in the dog park.
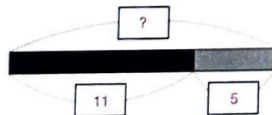How many dogs went home?

14
?   9

$14 - 9 = 5$

___5___ dogs went home.

(c) Abigail has put 11 beads on a string to make a necklace.
She has 5 beads still to put on the necklace.
How many beads will the necklace have when she is done?

?
11   5

$11 + 5 = 16$

The necklace will have ___16___ beads.

(d) 13 squirrels are busy gathering nuts.
7 of them have already found nuts.
How many have not yet found nuts?

13
7   ?
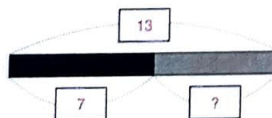
$13 - 7 = 6$

___6___ squirrels have not yet found nuts.

3. Write an equation.

(a) Connor and Daniel collected 17 pinecones.
Connor collected 8 pinecones.
How many pinecones did Daniel collect?

$17 - 8 = 9$

Daniel collected ___9___ pinecones.

(b) There are 13 goldfish in a fish tank.
There are also 6 angelfish.
How many fish are in the tank?

$13 + 6 = 19$

There are ___19___ fish in the tank.

(c) Emily is writing a storybook.
She has written 8 pages so far.
She is going to write another 5 pages.
How many pages will the book have?

$8 + 5 = 13$

The book will have ___13___ pages.

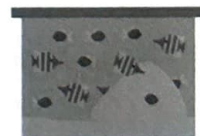### Exercise 4

Basics

1. Use the information in the model and complete the equation.

(a)
13

5   ?

$13 - 5 = 8$

(b)
?

13   5

$13 + 5 = 18$

(c)
?   7

15
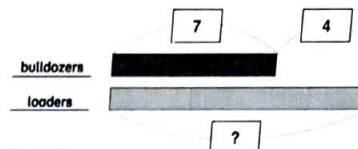
$15 - 7 = 8$

(d)
7

11

?

$11 - 7 = 4$

(e)
6

?

11

$11 + 6 = 17$

Practice

2. Complete the models with the information in the problem.
Use a question mark for what the problem asks for.
Write an equation.

(a) There are 7 bulldozers at a construction site.
There are 4 more loaders than bulldozers at the site.
How many loaders are there?

7   4

bulldozers

loaders

?

$7 + 4 = 11$

There are ___11___ loaders.

(b) Jaiden has 15 apple trees.
He has 8 fewer pear trees than apple trees.
How many pear trees does he have?

15

apple trees

pear trees

?   8
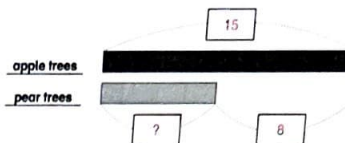
$15 - 8 = 7$

He has ___7___ pear trees.

(c) There are 9 swans at the pond.
There are 4 fewer swans than ducks.
How many ducks are there?

9   4

swans

ducks

?
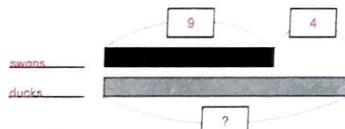
$9 + 4 = 13$

There are ___13___ ducks.

(d) Hazel has 12 hens and 3 roosters.

i. How many more hens does she have than roosters?

12

hens

roosters

3   ?
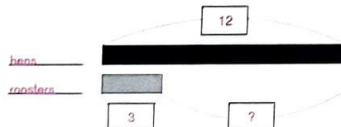
$12 - 3 = 9$

She has ___9___ more hens than roosters.

ii. How many chickens does she have in all?

$12 + 3 = 15$

She has ___15___ chickens in all.

3. Write an equation.

(a) Mr. Jackson planted 11 rosebushes.
He planted 4 more rosebushes than holly bushes.
How many holly bushes did he plant?

$11 - 4 = 7$

He planted ___7___ holly bushes.

(b) Hazel's hens laid 12 white eggs and 9 brown eggs.
How many fewer brown eggs did the hens lay than white eggs?

$12 - 9 = 3$

The hens laid ___3___ fewer brown than white eggs.

Challenge

4. Debra made some apple pies and cherry pies.
She made 10 apple pies.
She made 3 fewer cherry pies than apple pies.
How many pies did she make in all?

$10 - 3 = 7$
$10 + 7 = 17$

She made ___17___ pies.

Exercise 5

Check

1 Complete the addition tables.

+	6	8	5	1	9	2	7	4	3
7	→13	15	12	8	16	9	14	11	10
9	15	17	14	10	18	11	16	13	12
8	14	16	13	9	17	10	15	12	11
6	12	14	11	7	15	8	13	10	9

2 (a) [6] + 8 = 14 (b) 12 − [5] = 7

(c) [15] − 9 = 6 (d) 4 = [11] − 7

(e) 5 + [9] = 14 (f) 15 = 8 + [7]

(g) [4] + 11 = 15 (h) [17] − 3 = 14

3 Write >, <, or = in the ◯.

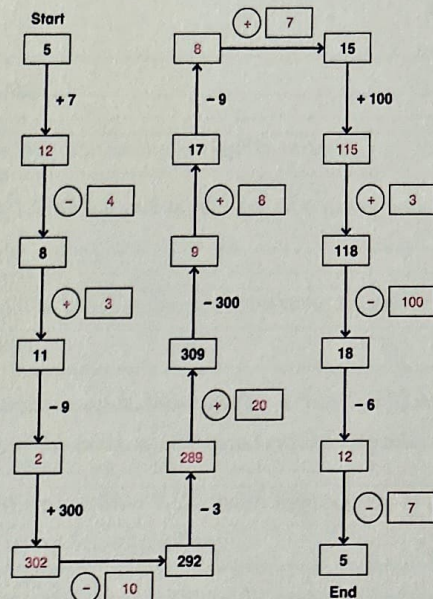(a) 15 − 7 (>) 11 − 9 (b) 8 + 3 (=) 5 + 6

(c) 12 − 9 (=) 14 − 11 (d) 9 + 9 (<) 21 − 2

(e) 17 − 8 (>) 87 − 80 (f) 215 − 200 (=) 7 + 8

4 Follow the arrows and fill in the missing numbers. Write + or − in the ◯.

5 There are 17 cars in the parking lot.
After some cars drive away, 5 cars are still in the parking lot.
How many cars drove away?

17 − 5 = 12

__12__ cars drove away.

6 Kaylee folded 12 paper birds and 8 paper cats.
How many fewer paper cats did she fold than paper birds?

12 − 8 = 4

She folded __4__ fewer paper cats than paper birds.

7 There are 11 roses in a vase.
There are 5 more carnations than roses in the vase.
How many carnations are in the vase?

11 + 5 = 16

There are __16__ carnations.

8 There are 11 hamsters in a pet store.
There are 5 more hamsters than gerbils in the pet store.
How many gerbils are in the pet store?

11 − 5 = 6

There are __6__ gerbils.

Challenge

9 Jack has 3 more action figures than Jade.
They each get 6 more action figures.
How many more action figures does Jack have than Jade?

If they each get the same amount, the difference does not change. Students can use counters if necessary.

Jack has __3__ more action figures than Jade.

10 Emiliano scored 15 points in a game.
Dexter scored 9 fewer points then Emiliano.
Cora scored 11 more points than Dexter.
How many more points did Cora score than Emiliano?

15 − 9 = 6 (Dexter's score)
6 + 11 = 17 (Cora's score)
17 − 15 = 2

There are various ways to solve this. One method is the 3 equations shown. The other is to notice that 9 less and 11 more is 2 more.

Cora scored __2__ more points than Emiliano.

11 Complete the addition tables.

(a)

+	7	9	6
6	13	15	12
5	12	14	11
8	15	17	14

(b)

+	9	7	8
3	12	10	11
5	14	12	13
4	13	11	12

If students have trouble, suggest they simply start by filling in whatever can be filled in. That will allow other squares to be filled in.
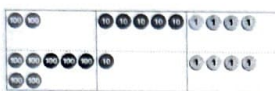
Chapter 3 Addition and Subtraction — Part 2

Exercise 1

Basics

1 (a) Add 254 and 714.

	2	5	4
+	7	1	4
	9	6	8

254 + 714 = **968**

(b) Add 32 and 836.

	8	3	6
+		3	2
	8	6	8

32 + 836 = **868**

Practice

2 Add.

(a)
	4	2
+	3	0
	7	2

(b)
	2	8
+	6	1
	8	9

(c)
	7	3
+	2	5
	9	8

---

3 Add.

	4	2	3
+		1	6
	4	3	9
R

	5	6	3
+		3	5
	5	9	8
D

	3	0	4
+		9	2
	3	9	6
C

	2	1	6
+	5	7	0
	7	8	6
I

	7	4	2
+	2	5	6
	9	9	8
O

	3	8	4
+	4	0	5
	7	8	9
L

	2	7	1
+	3	0	4
	5	7	5
C

	5	5	6
+	3	4	3
	8	9	9
E

	8	2	3
+	1	7	3
	9	9	6
O

What animal sometimes eats rocks?
Write the letters that match the answers above to find out.

C	R	O	C	O	D	I	L	E
575	439	998	396	996	598	786	789	899

---

4 A skateboard costs $35.
A scooter costs $23 more than the skateboard.
How much does the scooter cost?

	3	5
+	2	3
	5	8

The scooter costs $ **58** .

5 Eli has read 242 pages in a book so far.
He needs to read another 56 pages to finish the book.
How many pages does the book have?

	2	4	2
+		5	6
	2	9	8

The book has **298** pages.

6 After buying a guitar for $512, Makayla had $142 left.
How much money did she have at first?

	5	1	2
+	1	4	2
	6	5	4

She had $ **654** at first.

---

7 Complete the cross-number puzzle using the clues.

	A 4	B 9	C 7		D 6		
		E 6	8		F 9	5	G 8
	H 8	6	0		1		5
	4					I 7 6	J 9
	K 7	L 5		M 8		3		7
		8		N 9	7	5		4
	O 3	4	2				

Across		Down	
497	A 456 + 41	B 104 + 862	966
68	E 36 + 32	C 530 + 250	780
958	F 605 + 353	D 141 + 550	691
860	H 840 + 20	G 424 + 432	856
769	I 306 + 463	H 122 + 725	847
75	K 32 + 43	I 315 + 420	735
975	N 911 + 64	J 453 + 521	974
342	O 231 + 111	L 453 + 130	583
		M 720 + 172	892

Exercise 2

Basics

1 (a) Subtract 514 from 756.

	7	5	6
−		5	1	4
		2	4	2

756 − 514 = **242**

(b) Subtract 36 from 489.

	4	8	9
−		3	6
	4	5	3

489 − 36 = **453**

Practice

2 Subtract.

(a)
	4	2
−	3	0
	1	2

(b)
	6	8
−	3	1
	3	7

(c)
	7	5
−	2	2
	5	3

---

3 Subtract.

	3	7	9
−		4	2
	3	3	7

	5	8	7
−		4	5
	5	4	2

	2	9	5
−		7	3
	2	2	2

	9	7	3
−	1	7	2
	8	0	1

	9	0	8
−	3	0	3
	6	0	5

	6	9	8
−	1	3	6
	5	6	2

	9	5	7
−	4	4	1
	5	1	6

	6	8	7
−	6	7	4
		1	3

	4	9	8
−	1	8	0
	3	1	8

Color the spaces that contain the answers to find out what animal Emma's pet is.

90, 225, 66, 337, 356, 530, 318, 286, 120, 15, 13, 605, 542, 16, 333, 516, 801, 45, 760, 86, 340, 222, 615, 562, 560, 20

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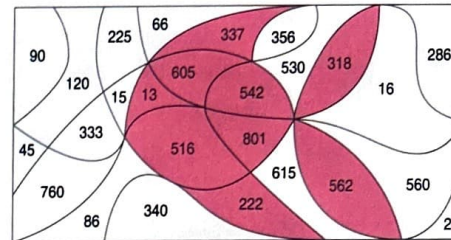
4 There are 68 golden hamsters at a pet store.
There are 25 fewer dwarf hamsters than golden hamsters.
How many dwarf hamsters are there?

	6	8
−	2	5
	4	3

There are ___43___ dwarf hamsters.

5 A book has 294 pages.
Kalama has read 62 pages.
How many more pages does she still have to read?

	2	9	4
−		6	2
	2	3	2

She has ___232___ more pages to read.

6 Laila had $398.
After buying some clothes, she had $142 left.
How much money did she spend on clothes?

	3	9	8
−	1	4	2
	2	5	6

She spent $___256___ on clothes.

---

7 Complete the cross-number puzzle using the clues.
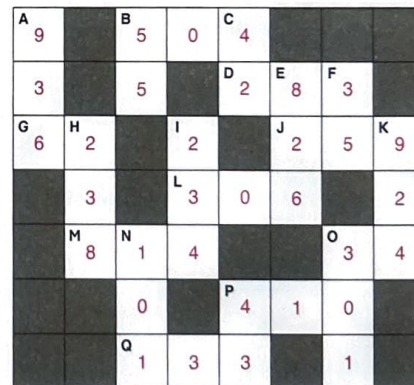
A 9	▮	B 5	0	C 4
3	▮	5	▮	D 2	E 8	F 3
G 6	H 2	▮	I 2	▮	J 2	5	K 9
	3	▮	L 3	0	6	▮	2
▮	M 8	N 1	4	▮	O 3	4
	0	▮	P 4	1	0	▮
▮	Q 1	3	3	▮	1	▮

Across			Down		
504	B 807 − 303		A 968 − 32	936
283	D 498 − 215		B 76 − 21	55
62	G 97 − 35		C 95 − 53	42
259	J 959 − 700		E 997 − 171	826
306	L 579 − 273		F 75 − 40	35
814	M 836 − 22		H 648 − 410	238
34	O 694 − 660		I 345 − 111	234
410	P 816 − 406		K 988 − 64	924
133	Q 843 − 710		N 489 − 388	101
			O 905 − 604	301
			P 264 − 221	43

Exercise 3

Basics

1 (a) Add 356 and 8.

	3	5	6
+			8
	3	6	4

356 + 8 = 364

(b) Add 356 and 28.

	3	5	6
+		2	8
	3	8	4
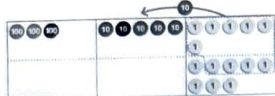
356 + 28 = 384

(c) Add 356 and 528.

	3	5	6
+	5	2	8
	8	8	4
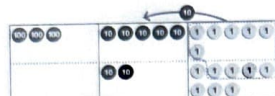
356 + 528 = 884
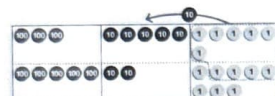
3-3 Addition with Regrouping Ones — 53

Practice

2 Add 547 and 219.

	5	4	7
+	2	1	9
	7	6	6

547 + 219 = 766
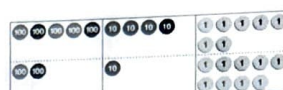
Students can write the lesser number on top when rewriting the expression vertically, but later, without a grid, it will be easier to align digits if the greater number is written first.

3 808 + 3 = 811

	8	0	8
+			3
	8	1	1

9 + 947 = 956

	9	4	7
+			9
	9	5	6

65 + 25 = 90

		6	5
+		2	5
		9	0

44 + 39 = 83

		4	4
+		3	9
		8	3

856 + 29 = 885

	8	5	6
+		2	9
	8	8	5

74 + 319 = 393

	3	1	9
+		7	4
	3	9	3

4 Write the missing digits.

(a)

	9	4	9
+		3	5
	9	8	4

(b)

	6	3	6
+	2	5	7
	8	9	3

54 — 3-3 Addition with Regrouping Ones

5 Add.

437 + 237

	4	3	7
+	2	3	7
	6	7	4

128 + 566

	1	2	8
+	5	6	6
	6	9	4

229 + 242

	2	2	9
+	2	4	2
	4	7	1

555 + 239

	5	5	5
+	2	3	9
	7	9	4

564 + 327

	5	6	4
+	3	2	7
	8	9	1

608 + 378

	6	0	8
+	3	7	8
	9	8	6

486 + 106

	4	8	6
+	1	0	6
	5	9	2

218 + 747

	2	1	8
+	7	4	7
	9	6	5

434 + 149

	4	3	4
+	1	4	9
	5	8	3

Color the spaces that contain the answers to help the bird find its home.

986	694	955	964	992	659
896	674	965	794	462	573
764	582	573	592	891	664
582	976	574	991	471	583

3-3 Addition with Regrouping Ones — 55

6 Megan has two plum trees.
She picked 135 plums from one tree and 157 from the other tree.
How many plums did she pick?

	1	3	5
+	1	5	7
	2	9	2

She picked 292 plums.

7 Megan made 106 jars of jam the first week.
The second week she made 29 more jars of jam than the week before.

(a) How many jars of jam did she make the second week?

	1	0	6
+		2	9
	1	3	5

She made 135 jars of jam the second week.

(b) How many jars of jam did she make in all both weeks?

	1	0	6
+	1	3	5
	2	4	1

She made 241 jars of jam both weeks.

56 — 3-3 Addition with Regrouping Ones

Exercise 4

Basics

1 (a) Add 472 and 5.

	4	7	2
+			5
	4	7	7

472 + 5 = **477**

(b) Add 472 and 65.

		1	
	4	7	2
+		6	5
	5	3	7
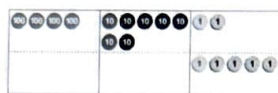
472 + 65 = **537**

(c) Add 472 and 365.

		1	
	4	7	2
+	3	6	5
	8	3	7
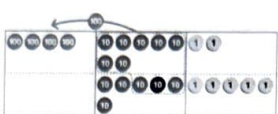
472 + 365 = **837**
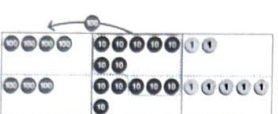
3-4 Addition with Regrouping Tens — 57

Practice

2 Add 480 and 397.
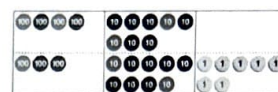
	4	8	0
+	3	9	7
	8	7	7

480 + 397 = **877**

3 676 + 90 = **766**   50 + 789 = **839**   36 + 90 = **126**

	6	7	6
+		9	0
	7	6	6

	7	8	9
+		5	0
	8	3	9

		3	6
+		9	0
	1	2	6

82 + 47 = **129**   572 + 86 = **658**   54 + 761 = **815**

		8	2
+		4	7
	1	2	9

	5	7	2
+		8	6
	6	5	8

	7	6	1
+		5	4
	8	1	5

4 Write the missing digits.

(a)

	8	5	3
+		8	3
	9	**3**	6

(b)

	1	**4**	1
+	6	7	8
	8	1	9

58 — *3-4 Addition with Regrouping Tens*

5 Add.

597 + 181

	5	9	7
+	1	8	1
	7	7	8

I

164 + 675

	1	6	4
+	6	7	5
	8	3	9

E

749 + 180

	7	4	9
+	1	8	0
	9	2	9

C

292 + 337

	2	9	2
+	3	3	7
	6	2	9

L

285 + 283

	2	8	5
+	2	8	3
	5	6	8

N

254 + 654

	2	5	4
+	6	5	4
	9	0	8

B

384 + 333

	3	8	4
+	3	3	3
	7	1	7

E

270 + 490

	2	7	0
+	4	9	0
	7	6	0

524 + 295

	5	2	4
+	2	9	5
	8	1	9

T

What did the zero say to the eight?
Write the letters (or blank for space) that match the answers above to find out.

N	I	C	E		B	E	L	T
568	778	929	717	760	908	839	629	819

3-4 Addition with Regrouping Tens — 59

6 Mr. Lewis is making two brick fireplaces.
He plans to use 290 bricks for one fireplace,
and 180 bricks for the other fireplace.

(a) How many bricks does he plan to use for both fireplaces?

	2	9	0
+	1	8	0
	4	7	0

He plans to use **470** bricks.

(b) He wants to buy 30 extra bricks in case he needs them.
How many bricks should he buy?

	4	7	0
+		3	0
	5	0	0

He should buy **500** bricks.

7 Mr. Lewis spent $595 on the bricks and $262 on the mortar.
How much did he spend on the bricks and mortar?

	5	9	5
+	2	6	2
	8	5	7

He spent $ **857** .

60 — *3-4 Addition with Regrouping Tens*

Exercise 5

Basics

1 (a) Add 457 and 4

```
  1
  4 5 7
+     4
─────────
  4 6 1
```

457 + 4 = **461**

(b) Add 457 and 84.

```
  1 1
  4 5 7
+   8 4
─────────
  5 4 1
```

457 + 84 = **541**

(c) Add 457 and 384.

```
  1 1
  4 5 7
+ 3 8 4
─────────
  8 4 1
```

457 + 384 = **841**

Practice

2 Add 376 and 394.

```
  3 7 6
+ 3 9 4
─────────
  7 7 0
```

376 + 394 = **770**

3

56 + 95 = **151**

```
    5 6
+   9 5
─────────
  1 5 1
```

84 + 66 = **150**

```
    8 4
+   6 6
─────────
  1 5 0
```

49 + 59 = **108**

```
    4 9
+   5 9
─────────
  1 0 8
```

799 + 92 = **891**

```
  7 9 9
+   9 2
─────────
  8 9 1
```

683 + 18 = **701**

```
  6 8 3
+   1 8
─────────
  7 0 1
```

36 + 886 = **922**

```
    3 6
+ 8 8 6
─────────
  9 2 2
```

4 Write the missing digits.

(a)
```
  1 3 9
+   8 3
─────────
  2 2 2
```

(b)
```
  1 1 7
+ 6 8 5
─────────
  8 0 2
```

5 Add.

145 + 695
```
  1 4 5
+ 6 9 5
─────────
  8 4 0
```
B

258 + 278
```
  2 5 8
+ 2 7 8
─────────
  5 3 6
```
H

297 + 137
```
  2 9 7
+ 1 3 7
─────────
  4 3 4
```
I

262 + 598
```
  2 6 2
+ 5 9 8
─────────
  8 6 0
```
G

479 + 429
```
  4 7 9
+ 4 2 9
─────────
  9 0 8
```
T

388 + 269
```
  3 8 8
+ 2 6 9
─────────
  6 5 7
```
N

193 + 407
```
  1 9 3
+ 4 0 7
─────────
  6 0 0
```
E

367 + 576
```
  3 6 7
+ 5 7 6
─────────
  9 4 3
```
H

177 + 783
```
  1 7 7
+ 7 8 3
─────────
  9 6 0
```
O

What is the strongest bone in your body?
Write the letters that match the answers above to find out.

T	H	I	G	H	B	O	N	E
908	943	434	860	536	840	960	657	600

6 The second and third graders from Sydney's school went to the aquarium. There were 239 second graders and 383 third graders. How many students went on the trip that day?

```
  2 3 9
+ 3 8 3
─────────
  6 2 2
```

622 students went on the trip.

7 The cost for snacks at the aquarium for students was $687. The cost for snacks for the teachers was $125. How much did the snacks cost?

```
  6 8 7
+ 1 2 5
─────────
  8 1 2
```

The snacks cost $ **812** .

8 In one display, there were 158 fish. In another, there were 787 fish. How many fish were in the two displays?

```
  1 5 8
+ 7 8 7
─────────
  9 4 5
```

There were **945** fish in the two displays.

Exercise 6

Check

1 Which two numbers below will give the greatest answer when added together?
Find the answer.

| 249 | 294 | 75 | 386 |

386 + 294 = 680

2 What digit is in the tens place for the value of each of the following:

Tens digit

(a) 241 + 537   **7**

(b) 135 + 438   **7**

(c) 183 + 447   **3**

(d) 466 + 327   **9**

While students can first do the addition, some students may be able determine the tens digit without calculating the sum completely.

3 Write >, <, or = in the ◯.

(a) 824 + 163 ◯< 456 + 541

(b) 635 + 82 ◯> 542 + 161

(c) 357 + 484 ◯= 454 + 387

(d) 836 − 412 ◯> 168 + 225

3-6 Practice A   65

4 Add.

(a) 8 + 7 + 5 = 20

(b) 70 + 90 + 60 = 220

(c) 300 + 200 + 100 = 600

(d)
	3	7	8
	2	9	7
+	1	6	5
	8	4	0

5 (a)
	4	9	9
		7	3
+		8	2
	6	5	4

(b)
	1	2	9
		4	3	6
+		6	8
	6	3	3

6 There are 365 men, 314 women, and 278 children in a club.

(a) How many more men than women are there?

365 − 314 = 51

There are ___51___ more men than women.

(b) How many people are there in the club altogether?

365 + 314 + 278 = 957

There are ___957___ people in the club.

66   3-6 Practice A

Exercise 7

Basics

1 (a) Subtract 7 from 863.

$$
\begin{array}{r}
5\ \ 13 \\
8\ \ \cancel{6}\ \ \cancel{3} \\
-\ \ \ \ \ \ \ \ 7 \\
\hline
8\ \ 5\ \ 6
\end{array}
$$

863 − 7 = 856

(b) Subtract 37 from 863.

$$
\begin{array}{r}
5\ \ 13 \\
8\ \ \cancel{6}\ \ \cancel{3} \\
-\ \ \ 3\ \ 7 \\
\hline
8\ \ 2\ \ 6
\end{array}
$$

863 − 37 = 826

(c) Subtract 537 from 863.

$$
\begin{array}{r}
5\ \ 13 \\
8\ \ \cancel{6}\ \ \cancel{3} \\
-\ \ 5\ \ 3\ \ 7 \\
\hline
3\ \ 2\ \ 6
\end{array}
$$

863 − 537 = 326

Practice

2 Subtract 356 from 674.

$$
\begin{array}{r}
6\ \ 7\ \ 4 \\
-\ \ 3\ \ 5\ \ 6 \\
\hline
3\ \ 1\ \ 8
\end{array}
$$

674 − 356 = 318

3

45 − 8 = 37

$$
\begin{array}{r}
4\ \ 5 \\
-\ \ \ \ \ \ 8 \\
\hline
3\ \ 7
\end{array}
$$

91 − 39 = 52

$$
\begin{array}{r}
9\ \ 1 \\
-\ \ 3\ \ 9 \\
\hline
5\ \ 2
\end{array}
$$

86 − 67 = 19

$$
\begin{array}{r}
8\ \ 6 \\
-\ \ 6\ \ 7 \\
\hline
1\ \ 9
\end{array}
$$

974 − 8 = 966

$$
\begin{array}{r}
9\ \ 7\ \ 4 \\
-\ \ \ \ \ \ \ \ 8 \\
\hline
9\ \ 6\ \ 6
\end{array}
$$

861 − 16 = 845

$$
\begin{array}{r}
8\ \ 6\ \ 1 \\
-\ \ \ \ \ 1\ \ 6 \\
\hline
8\ \ 4\ \ 5
\end{array}
$$

370 − 45 = 325

$$
\begin{array}{r}
3\ \ 7\ \ 0 \\
-\ \ \ \ \ 4\ \ 5 \\
\hline
3\ \ 2\ \ 5
\end{array}
$$

4 Write the missing digits.

(a)
$$
\begin{array}{r}
6\ \ 8\ \ 1 \\
-\ \ \ \ \ 3\ \ 5 \\
\hline
6\ \ 4\ \ 6
\end{array}
$$

(b)
$$
\begin{array}{r}
9\ \ 8\ \ 2 \\
-\ \ 2\ \ 0\ \ 5 \\
\hline
7\ \ 7\ \ 7
\end{array}
$$

5 Subtract.

482 − 259

$$
\begin{array}{r}
4\ \ 8\ \ 2 \\
-\ \ 2\ \ 5\ \ 9 \\
\hline
2\ \ 2\ \ 3
\end{array}
$$

374 − 127

$$
\begin{array}{r}
3\ \ 7\ \ 4 \\
-\ \ 1\ \ 2\ \ 7 \\
\hline
2\ \ 4\ \ 7
\end{array}
$$

660 − 349

$$
\begin{array}{r}
6\ \ 6\ \ 0 \\
-\ \ 3\ \ 4\ \ 9 \\
\hline
3\ \ 1\ \ 1
\end{array}
$$

633 − 205

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

671 − 357

$$
\begin{array}{r}
6\ \ 7\ \ 1 \\
-\ \ 3\ \ 5\ \ 7 \\
\hline
3\ \ 1\ \ 4
\end{array}
$$

885 − 477

$$
\begin{array}{r}
8\ \ 8\ \ 5 \\
-\ \ 4\ \ 7\ \ 7 \\
\hline
4\ \ 0\ \ 8
\end{array}
$$

687 − 549

$$
\begin{array}{r}
6\ \ 8\ \ 7 \\
-\ \ 5\ \ 4\ \ 9 \\
\hline
1\ \ 3\ \ 8
\end{array}
$$

973 − 919

$$
\begin{array}{r}
9\ \ 7\ \ 3 \\
-\ \ 9\ \ 1\ \ 9 \\
\hline
5\ \ 4
\end{array}
$$

591 − 154

$$
\begin{array}{r}
5\ \ 9\ \ 1 \\
-\ \ 1\ \ 5\ \ 4 \\
\hline
4\ \ 3\ \ 7
\end{array}
$$

What gets bigger the more you take away?
Shade in rectangles that contain the answers.
There may be more than one for each number.

139	248	223	314	127	437	807	36	408
45	324	724	333	328	117	888		
437	779	18	329	29	601	138		
427	500	47	171	97	559	321		
817	999	54	247	226	311	123	428	

6 Jordan's science club raised $340 for a trip to the science center. After buying tickets for $106, they donated the rest to the science center. How much did they donate to the science center?

$$
\begin{array}{r}
3\ \ 4\ \ 0 \\
-\ \ 1\ \ 0\ \ 6 \\
\hline
2\ \ 3\ \ 4
\end{array}
$$

They donated $ 234 to the science center.

7 An elk exhibit said scientists counted 873 elk in County A and 249 elk in County B. How many more elk did they count in County A than County B?

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

They counted 624 more elk in County A than County B.

8 A cat exhibit said that cats have 244 bones. Human adults have 206 bones. How many fewer bones do human adults have than cats?

$$
\begin{array}{r}
2\ \ 4\ \ 4 \\
-\ \ 2\ \ 0\ \ 6 \\
\hline
3\ \ 8
\end{array}
$$

Humans have 38 fewer bones than cats.

Exercise 8

Basics

1 (a) Subtract 5 from 738.

	7	3	8
−			5
	7	3	3

738 − 5 = **733**

(b) Subtract 85 from 738.

6 13

	7̶	3̶	8
−		8	5
	6	5	3

738 − 85 = **653**

(c) Subtract 285 from 738.

6 13

	7̶	3̶	8
−	2	8	5
	4	5	3

738 − 285 = **453**

3-8 Subtraction with Regrouping from Hundreds 71

Practice

2 Subtract 182 from 948.

	9	4	8
−	1	8	2
	7	6	6

948 − 182 = **766**

3 612 − 30 = **582**   807 − 40 = **767**   346 − 55 = **291**

	6	1	2
−		3	0
	5	8	2

	8	0	7
−		4	0
	7	6	7

	3	4	6
−		5	5
	2	9	1

336 − 46 = **290**   129 − 44 = **85**   708 − 82 = **626**

	3	3	6
−		4	6
	2	9	0

	1	2	9
−		4	4
		8	5

	7	0	8
−		8	2
	6	2	6

4 Write the missing digits.

(a)

	7	3	9
−		9	9
	6	4	0

(b)

	6	2	6
−	5	4	3
		8	3

72   *3-8 Subtraction with Regrouping from Hundreds*

5 Subtract.

815 − 555

	8	1	5
−	5	5	5
	2	6	0

U

638 − 281

	6	3	8
−	2	8	1
	3	5	7

L

826 − 161

	8	2	6
−	1	6	1
	6	6	5

W

407 − 123

	4	0	7
−	1	2	3
	2	8	4

H

839 − 562

	8	3	9
−	5	6	2
	2	7	7

E

617 − 376

	6	1	7
−	3	7	6
	2	4	1

E

729 − 383

	7	2	9
−	3	8	3
	3	4	6

L

568 − 490

	5	6	8
−	4	9	0
		7	8

A

706 − 562

	7	0	6
−	5	6	2
	1	4	4

B

What is the largest animal?
Write the letters that match the answers above to find out.

B	L	U	E		W	H	A	L	E
144	357	260	277	267	665	284	78	346	241

3-8 Subtraction with Regrouping from Hundreds 73

6 A dairy factory packaged 728 bricks of cheddar cheese and 450 bricks of swiss cheese. How many more bricks of cheddar cheese did the dairy package than swiss cheese?

	7	2	8
−	4	5	0
	2	7	8

It packaged **278** more bricks of cheddar cheese than swiss cheese.

7 Last week, the dairy factory sold 518 scoops of ice cream. This week, it sold 492 scoops of ice cream. How many fewer scoops did it sell this week than last week?

	5	1	8
−	4	9	2
		2	6

It sold **26** fewer scoops of ice cream this week than last week.

8 Today, the dairy supplies milk to 854 grocery stores. This is 627 more stores than it supplied milk to when it first opened. How many stores sold the dairy's milk when it first opened?

	8	5	4
−	6	2	7
	2	2	7

227 stores sold the dairy's milk when it first opened.

74   *3-8 Subtraction with Regrouping from Hundreds*

Exercise 9

Basics

1 (a) Subtract 7 from 842.

$$3 \quad 12$$

	8	4̶	2̶
−			7
	8	3	5

842 − 7 = **835**

(b) Subtract 67 from 842.

$$7 \quad 13 \quad 12$$

	8̶	4̶	2̶
−		6	7
	7	7	5

842 − 67 = **775**

(c) Subtract 467 from 842.

$$7 \quad 13 \quad 12$$

	8̶	4̶	2̶
−	4	6	7
	3	7	5

842 − 467 = **375**

Practice

2 Subtract 685 from 974.

	9	7	4
−	6	8	5
	2	8	9

974 − 685 = **289**

3 913 − 24 = **889**   462 − 73 = **389**   570 − 93 = **477**

	9	1	3
−		2	4
	8	8	9

	4	6	2
−		7	3
	3	8	9

	5	7	0
−		9	3
	4	7	7

840 − 61 = **779**   355 − 76 = **279**   112 − 49 = **63**

	8	4	0
−		6	1
	7	7	9

	3	5	5
−		7	6
	2	7	9

	1	1	2
−		4	9
		6	3

4 Write the missing digits.

(a)

	3	1	2
−		5	5
	2	5	7

(b)

	9	3	0
−	8	7	8
		5	2

5 Subtract.

334 − 227

	3	3	4
−	2	2	7
	1	0	7

I

580 − 398

	5	8	0
−	3	9	8
	1	8	2

A

753 − 284

	7	5	3
−	2	8	4
	4	6	9

R

820 − 655

	8	2	0
−	6	5	5
	1	6	5

T

843 − 386

	8	4	3
−	3	8	6
	4	5	7

A

352 − 296

	3	5	2
−	2	9	6
		5	6

C

736 − 389

	7	3	6
−	3	8	9
	3	4	7

N

526 − 178

	5	2	6
−	1	7	8
	3	4	8

T

440 − 397

	4	4	0
−	3	9	7
		4	3

C

There are bumblebees on every continent except ...
Write the letters that match the answers above to find out.

A	N	T	A	R	C	T	I	C	A
457	347	165	182	469	43	348	107	56	457

6 There are 222 townhouses and 154 condos in a new housing development.

(a) How many more townhouses are there than condos?

	2	2	2
−	1	5	4
		6	8

There are **68** more townhouses than condos.

(b) So far, 198 families have moved into the townhouses.
How many townhouses are still empty?

	2	2	2
−	1	9	8
		2	4

24 townhouses are still empty.

(c) 96 of the condos are still empty.
How many families have moved into the condos already?

	1	5	4
−		9	6
		5	8
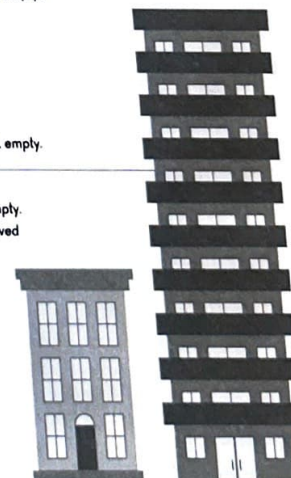
58 families have moved into the condos.

Exercise 10

Basics

1 (a) Subtract 9 from 600.

5	9	10
6̸	0̸	0̸
–		9
5	9	1

600 – 9 = 591

(b) Subtract 29 from 600.

5	9	10
6̸	0̸	0̸
–	2	9
5	7	1

600 – 29 = 571

(c) Subtract 429 from 600.

5	9	10
6̸	0̸	0̸
–	4	2	9
	1	7	1

600 – 429 = 171

Practice

2 Subtract 249 from 905.

9	0	5
– 2	4	9
6	5	6

905 – 249 = 656

3

400 – 7 = 393

4	0	0
–		·7
3	9	3

600 – 4 = 596

6	0	0
–		4
5	9	6

700 – 41 = 659

7	0	0
–	4	1
6	5	9

500 – 82 = 418

5	0	0
–	8	2
4	1	8

807 – 89 = 718

8	0	7
–	8	9
7	1	8

903 – 94 = 809

9	0	3
–	9	4
8	0	9

4 Write the missing digits.

(a)

3	0	0
–	9	9
2	0	1

(b)

8	0	3
– 6	1	7
1	8	6

5 Subtract.

700 – 333

7	0	0
– 3	3	3
3	6	7

A

904 – 266

9	0	4
– 2	6	6
6	3	8

E

400 – 195

4	0	0
– 1	9	5
2	0	5

D

802 – 445

8	0	2
– 4	4	5
3	5	7

L

800 – 239

8	0	0
– 2	3	9
5	6	1

S

403 – 368

4	0	3
– 3	6	8
	3	5

O

600 – 398

6	0	0
– 3	9	8
2	0	2

C

701 – 627

7	0	1
– 6	2	7
	7	4

N

500 – 216

5	0	0
– 2	1	6
2	8	4

P

If you are in a race and passed by the person in second place, what place would you then be in?
Write the letters that match the answers above to find out.

S	E	C	O	N	D		P	L	A	C	E
561	638	202	35	74	205		914	284	357	202	638

6 803 planes took off from an airport one day.
758 planes landed at that airport the same day.
How many fewer planes landed than took off?

8	0	3
– 7	5	8
	4	5

45 fewer planes landed than took off.

7 There were 805 suitcases in the cargo hold of an airplane.
39 suitcases have already been taken out of the cargo hold.
How many suitcases are still in the cargo hold?

8	0	5
–	3	9
7	6	6

766 suitcases are still in the cargo hold.

8 A round-trip ticket to another city costs $700.
A one-way ticket costs $370.
How much more does the round-trip ticket cost than the one-way ticket?

7	0	0
– 3	7	0
3	3	0

The round-trip ticket costs $ 330 more than the one-way ticket.

Teacher's Guide 2A Chapter 3

Exercise 11

Check

1. Which two numbers below will give the greatest answer when one is subtracted from the other? Find the answer.

| 423 | 294 | 175 | 386 |

$\boxed{423} - \boxed{175} = \boxed{248}$

2. What digit is in the tens place for the value of each of the following:

	Tens digit
(a) 894 – 537	5
(b) 542 – 438	0
(c) 622 – 367	5
(d) 406 – 127	7

3. Write >, <, or = in the ○.

(a) 974 – 532 ⊂<⊃ 914 – 432

(b) 704 – 263 ⊂=⊃ 805 – 364

(c) 789 – 432 ⊂>⊃ 325 – 61

(d) 202 + 98 ⊂>⊃ 500 – 398

4.

A farmer has 980 sheep.
He sheared 405 of them last week and 389 this week.

(a) How many more sheep did he shear last week than this week?

405 – 389 = 16

He sheared __16__ more sheep last week than this week.

(b) How many sheep has he sheared so far?

405 + 389 = 794

He has sheared __794__ sheep so far.

(c) How many sheep does he have left to shear?

980 – 794 = 186

He has __186__ sheep left to shear.

Exercise 12

Check

1. Write one addition and one subtraction equation. Use all the numbers in the box.

467	737
375	243
710	362

$\boxed{362} + \boxed{375} = \boxed{737}$

$\boxed{710} - \boxed{467} = \boxed{243}$

2. Circle the greatest number and cross out the least number.

(a) 680 – 145   500 + 50 + 5   432 + 98

~~49 tens~~   (4 hundreds 16 tens)

(b) 900 – 734   (932 – 637)   2 hundreds 60 ones

~~one-hundred sixty-three~~   189 + 76

(c) 6 hundreds – 12 ones   4 hundreds + 17 tens   (234 + 392)

~~60 + 2 × 500~~   956 – 382

3. Complete the number puzzles.

(a)

284	+	179	=	463
+	■	+	■	+
295	+	219	=	514
=	■	=	■	=
579	+	398	=	977

(b)

316	+	84	=	400
+	■	+	■	+
178	+	322	=	500
=	■	=	■	=
494	+	406	=	900

Challenge

4. Find the number that each shape stands for.

◆ + ◆ + ⬡ = 940

◆ + ⬡ = 510

◆ = 430

⬡ = 80

Hint: ◆ is the difference between 940 and 510.
Then ⬡ can be found.
Check: 430 + 430 + 80 = 940

Chapter 4 Length

Exercise 1

Basics

1 This is a centimeter ruler.
All four arrows are ___1___ cm long.
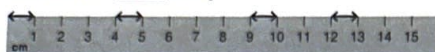
2
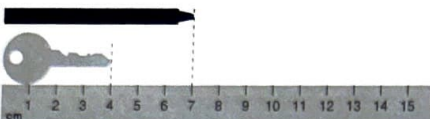
(a) The crayon is ___7___ cm long.

(b) The key is ___4___ cm long.

(c) The crayon is ___3___ cm longer than the key.

3

(a) The pencil is between ___9___ cm and ___10___ cm long.

(b) The craft stick is about ___14___ cm long.

Practice

4 Cut out the centimeter ruler from the back of this workbook.
Use it to measure the length of each of the objects on this page.

(a) paper clip: about ___3___ cm

(b) eraser: about ___4___ cm

(c) pipe cleaner: about ___15___ cm

(d) pen: about ___15___ cm

(e) comb: between ___11___ cm

and ___12___ cm

(f) pencil: about ___8___ cm
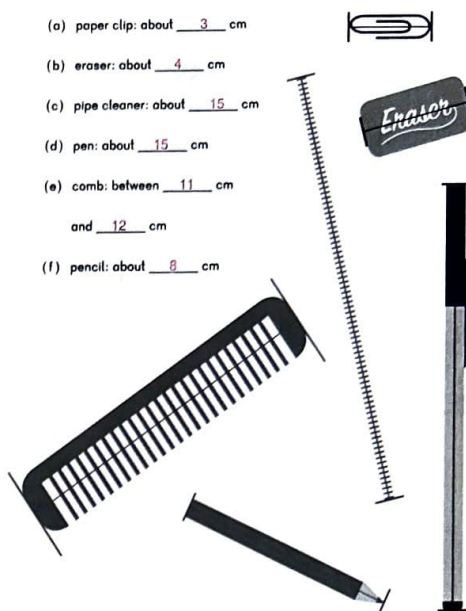
5 Write the length of each shaded rectangle.

9 cm

5 cm

7 cm

4 cm

6 cm

F
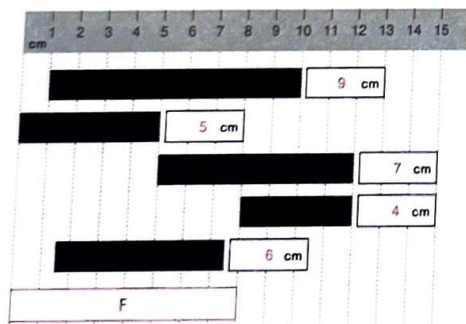
(a) Rectangle ___A___ is the longest.

(b) Rectangle ___D___ is the shortest.

(c) Rectangle ___E___ is 3 cm shorter than Rectangle A.

(d) Draw a Rectangle F that is longer than Rectangle C but shorter than Rectangle A. Length can be anywhere between 7 and 9 cm and can start anywhere between 0 and 7 cm

(e) Arrange the rectangles in order from shortest to longest.

| D | B | E | C | F | A |

6

Students are not specifically instructed to measure, they should realize they need to do so in order to fill in the blanks.

This rectangle is ___4___ cm longer than it is wide.

The total length around all four sides of this rectangle is ___28___ cm.

7 Use a ruler to draw a line that is 10 cm long.

8 This line is made up of three segments.
Measure the length of each segment and then write the total length of the line.

18 cm

9 Theodore is 105 cm tall.
Parker is 142 cm tall.
How much taller is Parker than Theodore?

142 − 105 = 37

Parker is ___37___ cm taller than Theodore.

Exercise 2

Basics

1 Cut out and tape together all three centimeter rulers from the back of this workbook to make a 60-cm ruler. Estimate the length of your thumb, hand, foot, and forearm, then measure to find the length in centimeters.   Answers will vary.

Body part		Estimated	Measured
Thumb		About _____ cm	About _____ cm
Hand		About _____ cm	About _____ cm
Foot		About _____ cm	About _____ cm
Forearm		About _____ cm	About _____ cm

2 Draw lines that you think are each of these lengths. Then measure and write their lengths.

(a) 10 cm   About _____ cm

(b) 6 cm   About _____ cm

Practice

3 Look around for some objects that are less than 60 cm long.   Answers will vary.
Estimate their length first, then measure to find the length in centimeters.

Object	Estimated	Measured
	About _____ cm	About _____ cm
	About _____ cm	About _____ cm
	About _____ cm	About _____ cm
	About _____ cm	About _____ cm

4 These lines are made up of line segments.
The length of each line is the total length of the segments.
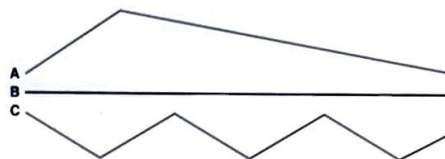
(a) Without measuring, arrange the lines in order from longest to shortest.

| C | A | B |

(b) **Line A** is 16 cm long.
Estimate the length of the other lines, then measure.

Line B is about __15__ cm.   **Line C** is about __17__ cm.

Exercise 3

Basics

1 Use a ribbon or cardboard strip that is 1 meter long.
Measure the lengths of the objects listed below.   Answers will vary.

Object	Length
My height	Between _____ m and _____ m
Width of a door	Between _____ m and _____ m
Height of a door	Between _____ m and _____ m
Length of a table	Between _____ m and _____ m
Width of a table	Between _____ m and _____ m

Practice

2 Measure some other lengths.   Answers will vary.

Object	Length
	Between _____ m and _____ m
	Between _____ m and _____ m
	Between _____ m and _____ m
	Between _____ m and _____ m

3 A wire is cut into two parts. The first part is 65 m long.
The second part is 32 m longer than the first part.

(a) How long is the second part?

65 + 32 = 97

The second part is __97__ m long.

(b) How long was the wire before it was cut?

65 + 97 = 162

The wire was __162__ m long at first.

4 The distance from the library to the school is 345 m.
The distance from the school to the playground is 429 m.

345 m 429 m
library school playground

(a) How much farther is the playground than the library from the school?

429 − 345 = 84

The playground is __84__ m farther than the library from the school.

(b) What is the total distance from the library to the school to the playground?

345 + 429 = 774

The total distance is __774__ m.

Exercise 4

Basics

1 1 meter is the same as __100__ centimeters.

2 Use a ribbon or cardboard strip that is 1 meter long.
Look around for things that you think are about 1 m long.
Measure them to see whether they are shorter than, close to,
or longer than 1 m.
Write what you measured below.
Put a check (✓) in the correct box.

Answers will vary.

Object	Shorter than 1 m	1 m	Longer than 1 m

3 Cut a string that you think is 1 m long.
Check the length of the string with a meter stick.

Practice

Answers will vary.

4 Look around for some other objects that are less than 9 m long.
Estimate their length first, then measure to find the length in meters.

Object	Estimated	Measured
	About _____ m	About _____ m
	About _____ m	About _____ m
	About _____ m	About _____ m
	About _____ m	About _____ m

5 Fill in the blanks with m or cm.

(a) The length of a bathtub is about 2 __m__.

(b) The thickness of a book is about 2 __cm__.

(c) The height of a giraffe is about 5 __m__.

(d) The depth of the water at the deep end of a pool is about 3 __m__.

(e) The wingspan of a monarch butterfly is about 10 __cm__.

(f) The height of a man is about 180 __cm__.

(g) The height of the Space Needle observation tower is about 184 __m__.

Teacher's Guide 2A Chapter 4

Exercise 5

Basics

1 This is an inch ruler.
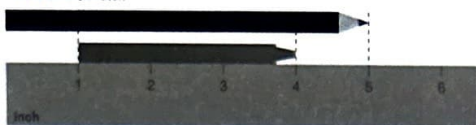
(a) The pencil is __5__ in long.

(b) The crayon is __3__ in long.

(c) The crayon is __2__ in shorter than the pencil.

2
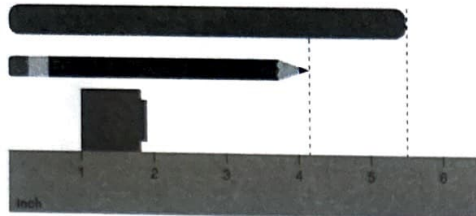
(a) The craft stick is between __5__ in and __6__ in long.

(b) The pencil is about __4__ in long.

(c) The linking cube is almost __1__ in long.

4-5 Inches • 97

Practice

3 Cut out the inch ruler from the back of this workbook.
Use it to measure the length of each of the objects on this page.

(a) paper clip: about __1__ in

(b) eraser: between __1__ in

and __2__ in

(c) pipe cleaner: about __6__ in

(d) pen: about __6__ in

(e) comb: between __4__ in

and __5__ in

(f) pencil: about __3__ in
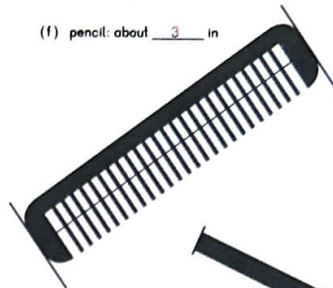
98 • 4-5 Inches

4 Cut out and tape together all three inch-rulers from the back of this
workbook to make a 24-in ruler.
Estimate the length of your thumb, hand, foot, and forearm,
then measure to find the length in inches.   *Answers will vary.*

Body part	Estimated	Measured
Thumb	About _____ in	About _____ in
Hand	About _____ in	About _____ in
Foot	About _____ in	About _____ in
Forearm	About _____ in	About _____ in

5 Draw lines that you think are each of these lengths.
Then measure and write their lengths.

(a) 6 in | About _____ in

(b) 2 in | About _____ in

4-5 Inches • 99

6 Look around for some objects that are less than 24 in long.   *Answers will vary.*
Estimate their length first, then measure to find the length in inches.

Object	Estimated	Measured
	About _____ in	About _____ in
	About _____ in	About _____ in
	About _____ in	About _____ in
	About _____ in	About _____ in

7 Use a ruler to draw a rectangle that is 5 in long and 3 in wide on the grid.
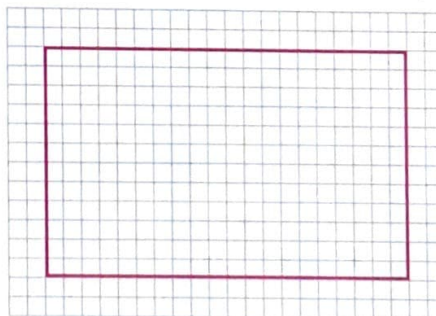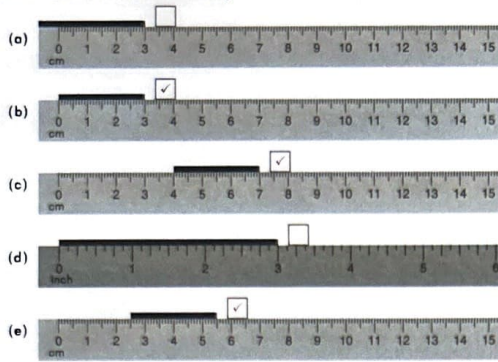
The total distance around the rectangle is __16__ in.

100 • 4-5 Inches

Exercise 6

Basics

1 Check the box if the line is 3 cm long.

(a) ☐

(b) ☑

(c) ☑

(d) ☐

(e) ☑

2

(a) 1 inch is between __2__ cm and __3__ cm.

(b) 6 inches is a little longer than __15__ cm.

(c) 5 cm is almost __2__ inches.

Practice

3 Draw lines with the following lengths next to the ruler:

(a) 6 cm

(b) 4 in

4 Draw lines with the following lengths next to the ruler:

(a) 6 in

(b) 4 cm

5 Fill in the blanks with in or cm.

(a) The length of a pen is about 12 __cm__.

(b) The depth of a bookshelf is about 12 __in__.

(c) The height of a 7-year old boy is about 42 __in__.

(d) The height of a cat is about 25 __cm__.

Exercise 7

Basics

1 Use a ruler or a yard stick which shows 3 feet. Measure the lengths of the things listed below.   *Answers will vary.*

Object	Length
My height	Between _____ ft and _____ ft
Width of a door	Between _____ ft and _____ ft
Height of a door	Between _____ ft and _____ ft
Length of a table	Between _____ ft and _____ ft
Width of a table	Between _____ ft and _____ ft

Practice

Answers will vary.

2 Look around for some other objects that are less than 6 ft long. Estimate their length first, then measure to find the length in feet.

| Object	Estimated	Measured
	About _____ ft	About _____ ft
	About _____ ft	About _____ ft
	About _____ ft	About _____ ft
	About _____ ft	About _____ ft

3 (a) 1 ft is the same as __12__ in.

(b) 1 m is about __3__ ft.

4 Fill in the blanks with ft or in.

(a) The length of a piece of paper is 11 __in__.

(b) The height of a ceiling is about 10 __ft__.

(c) The height of a stairstep is about 8 __in__.

(d) The depth of the water at the deep end of a pool is about 9 __ft__.

(e) The height of a man is about 70 __in__.

(f) The width of a soccer field is about 220 __ft__.

(g) The length of a bathtub is about 60 __in__.

(h) The wingspan of an eagle is about 6 __ft__.
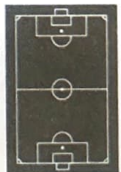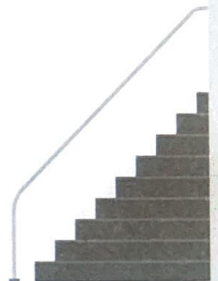
5 The Prudential Tower in Boston is 907 ft tall.
The MetLife Building in New York City is 808 ft tall.
How much taller is the Prudential Tower than the MetLife Building?

907 − 808 = 99

The Prudential Tower is __99__ ft taller than the MetLife Building.

Exercise 8

Check

1. (a) Estimate, then measure the line below in centimeters.

   _____

   Estimate: _____ cm

   Actual length: __8__ cm

   (b) Draw a line that is 3 cm longer.

   (c) Draw a line that is 4 cm shorter.

2. (a) Estimate, then measure the line below in inches.

   _____

   Estimate: _____ in

   Actual length: __4__ in

   (b) Draw a line that is 1 in longer.

   (c) Draw a line that is 3 in shorter.

3. Write > or < in the ◯.

   (a) 1 m ⊘ 1 ft

   (b) 1 cm ⊘ 1 in

   (c) 40 in ⊘ 40 cm

4. (a) 489 ft + 242 ft = [731] ft

   (b) 245 cm + 654 cm = [899] cm

   (c) 182 in – 37 in = [145] in

   (d) 231 m – 134 m = [97] m

   (e) 312 cm – 68 cm = [244] cm

5. Mr. Bhakta wants to build a fence around his rectangular garden.
   The garden is 124 feet long and 98 ft wide.
   He will leave an opening of 12 ft for a gate on one of the longer sides
   of the garden.

   124 ft
   98 ft
   12 ft
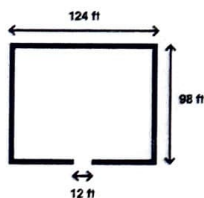
   (a) How much longer is the garden than it is wide?

   124 – 98 = 26

   The garden is __26__ ft longer than it is wide.

   (b) What is the total length of fence he needs for the side with a gate?

   124 – 12 = 112

   He needs __112__ ft of fence for the side with a gate.

   (c) What is the total length of fence for all four sides?

   124 + 98 + 98 + 112 = 432
   Students can add in steps or use mental math method, for example:
   124 + 98 + 98 + 112 = 120 + 100 + 100 + 112 = 432
   The total length of fence is __432__ ft.

6. Circle the two lines below that have a total length of 12 cm.

   ⬭ 7 cm   ⬭ 5 cm

   ———— 6 cm   ———— 8 cm
   Students should realize they
   need to measure the lines.

7. 4 identical blocks in a row next to each other measure 5 inches.
   6 identical tiles in a row next to each other also measure 5 inches.
   Which is longer, the block or the tile?

   The __block__ is longer.

Challenge

8. Four girls are comparing their heights.
   Rea is shorter than Yara but taller than Nina.
   Mia is shorter than Nina.
   Which girl is the tallest?
   Students can
   draw a picture.

   __Yara__ is the tallest.

9. Two yellow ribbons are the same length,
   and two red ribbons are the same length.
   Together, the two yellow ribbons have a length of 12 inches.
   Together, the two red ribbons have a length of 20 inches.
   How much longer is one red ribbon than one yellow ribbon?
   Students should
   be able to solve
   mentally.
   6 + 6 = 12 so the yellow ribbon is 6 in.
   10 + 10 = 20 so the red ribbon in 10 in.
   10 – 6 = 4
   One red ribbon is __4__ inches longer than one yellow ribbon.

Chapter 5 Weight

Exercise 1

Basics

1. Use a balance scale and some gram weights.
   Weigh the following objects and write the mass in grams.

   Answers will vary.

Object	Mass
A pencil	_____ grams
A mug	_____ grams
5 crayons	_____ grams

2. Look for some items that you think weigh about 200 g.
   Weigh them to see if they are less than or more than 200 g.
   Write what you weighed below.
   Put a check (✓) in the correct box.

   Answers will vary.

Object	Lighter than 200 g	Heavier than 200 g

Practice

3. Look around for some objects that you think weigh less than 1,000 g.
   Estimate their mass first, then weigh to find the mass in grams.

   Answers will vary.

Object	Estimated	Weighed
	About _____ g	About _____ g
	About _____ g	About _____ g
	About _____ g	About _____ g
	About _____ g	About _____ g

4. How much does each item weigh?

   (a) _____25_____ grams

   (b) _____106_____ grams

   (c) _____222_____ grams

   (d) _____705_____ grams
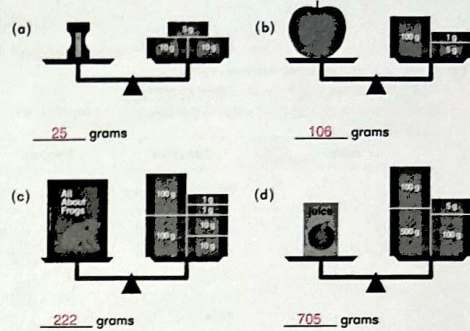
5. Fill in the blanks.

   (a) The pear weighs ___127___ g.

   (b) The banana weighs ___165___ g.

   (c) The total weight of the fruits is ___292___ g.
       127 + 165 = 292

   (d) The banana weighs ___38___ g more than the pear.
       165 − 127 = 38

6. A can of tuna weighs 199 g.
   A can of tomato sauce weighs 425 g.
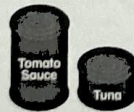
   (a) How much more does the can of tomato sauce weigh than the can of tuna?
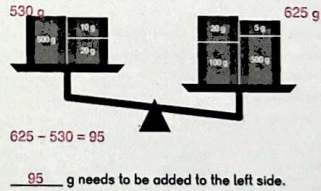
       425 − 199 = 226

       The can of tomato sauce weighs ___226___ g more than the can of tuna.
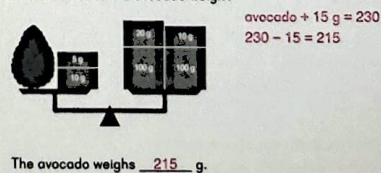
   (b) What do both cans weigh together?

       425 + 199 = 624

       Both cans weigh ___624___ g together.

7. How much weight needs to be added to the left side to balance the right side?

   625 − 530 = 95

   ___95___ g needs to be added to the left side.

8. How much does the avocado weigh?

   avocado + 15 g = 230
   230 − 15 = 215

   The avocado weighs ___215___ g.

Challenge

A will balance if the 20 g is removed and 50 g replaced with 30 g.
B will balance if the 70 g is removed and 300 g replaced with 230 g.

9. How much 200 g is the same for both. than Present B?
   230 − 30 = 200
   Or: A weighs 230, B weighs 430, difference is 200.
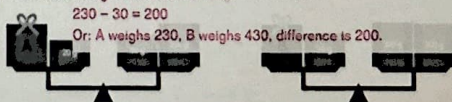
   Present A weighs ___200___ g less than Present B.

Exercise 2

Basics

1 Look for some items that you think weigh about 1 kilogram.
Use a 1-kg mass and a balance scale to see if they are lighter than, close to, or heavier than 1 kg.
Write what you weighed below.
Put a check (✓) in the correct box.
Answers will vary.

Object	Lighter than 1 kg	1 kg	Heavier than 1 kg

Practice

2 Use a weighing scale that measures in kilograms.
Find some objects that are heavier than 1 kg.
Estimate their mass first, then weigh to find the mass in kilograms.
Answers will vary.

Object	Estimated	Weighed
	About _____ kg	About _____ kg
	About _____ kg	About _____ kg
	About _____ kg	About _____ kg
	About _____ kg	About _____ kg

5-2 Kilograms 113

3 Fill in the blanks with g or kg.

(a) A newborn kitten weighs about 100 ___g___.

(b) A man weighs about 80 ___kg___.

(c) A cell phone weighs about 120 ___g___.

(d) A wide-screen computer monitor weighs about 4 ___kg___.

(e) A 1-L bottle of water weighs about 1 ___kg___.

(f) A quarter weighs about 6 ___g___.

(g) A bicycle weighs about 15 ___kg___.

4 A bakery ordered 120 kg of flour and 95 kg of sugar.

(a) How much more flour than sugar did it order?

120 − 95 = 25

It ordered __25__ kg more flour than sugar.

(b) The bakery used 87 kg of the flour so far.
How much flour is left?

120 − 87 = 33

__33__ kg of flour is left.

114 5-2 Kilograms

Exercise 3

Basics

1 Look for some items that you think weigh about 1 pound.
Use a 1-lb weight and a balance scale to see if they are lighter than, close to, or heavier than 1 lb.
Write what you weighed below.
Put a check (✓) in the correct box.
Answers will vary.

Object	Lighter than 1 lb	1 lb	Heavier than 1 lb

Practice

2 Use a weighing scale that measures in pounds.
Find some objects that are heavier than 1 lb.
Estimate their weight, then weigh to find the mass in pounds.
Answers will vary.

Object	Estimated	Weighed
	About _____ lb	About _____ lb
	About _____ lb	About _____ lb
	About _____ lb	About _____ lb
	About _____ lb	About _____ lb

5-3 Pounds 115

3 Circle the most reasonable weight for each of the following.

(a) A bicycle

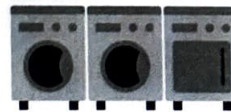3 lb   (30 lb)   100 lb

(b) A snowmobile

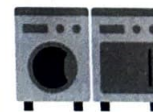6 lb   60 lb   (600 lb)

(c) A laundry basket filled with clothes

(8 lb)   80 lb   800 lb

Challenge

4 The weight of 2 identical washing machines and a dryer, and 1 washing machine and a dryer are shown below.
How much does the dryer weigh?

595 lb   390 lb

595 − 390 = 205 (weight of washing machine)
390 − 205 = 185 (weight of dryer)
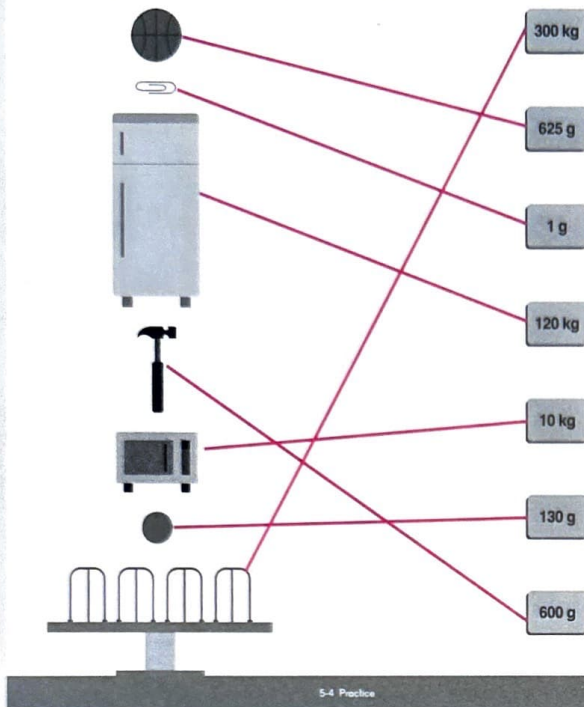
The dryer weighs __185__ lb.

116 5-3 Pounds

Exercise 4 ▶

Check

1 Match.

Students can order the items from lightest to heaviest, and the weights from least to greatest, if they are unsure.

basketball	300 kg
paper clip	625 g
refrigerator	1 g
hammer	120 kg
microwave	10 kg
ball	130 g
	600 g

5-4 Practice   117

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2 A chicken weighs 9 lb.
A turkey weighs 17 lb more than the chicken.
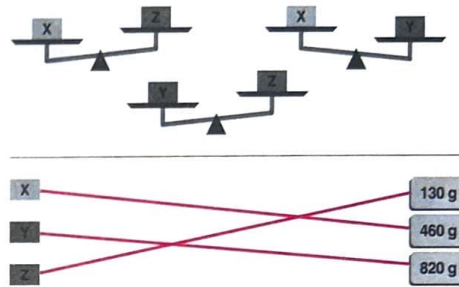How much does the turkey weigh?

$17 + 9 = 26$

The turkey weighs ___26___ lb.

3 Two packages weigh 985 g.
The lighter one weighs 349 g.
How much does the heavier one weigh?

$985 - 349 = 636$

The heavier package weighs ___636___ g.

Challenge

4 Study the balances, then match the boxes to their masses.

X	130 g
Y	460 g
Z	820 g

118   5-4 Practice

Exercise 5

Check

1 Write the numbers.

(a) [place value image] → 889

(b) [place value image] → 406

(c) [place value image] → 580

2 Write the numbers.

5 hundreds, 4 tens, 8 ones	548
8 ones, 6 hundreds	608
900 + 3 + 70	973
2 more than five hundred forty-nine	551
10 less than 8 hundreds and 6 ones	796
400 more than 5 tens 5 ones	455

3 Complete the number patterns.

(a) | 746 | 766 | 786 | 806 | 826 | 846 |

(b) | 365 | 363 | 361 | 359 | 357 | 355 |

---

4 Write the greatest number and the least number using all three digits.

	greatest number	least number
1, 9, 4	941	149
6, 0, 7	760	607
3, 8, 3	833	338

5 Complete the equation using the information in the model. Find the missing numbers.

(a) 342 | ?
724

$$724 \;-\; 342 \;=\; 382$$

(b) ?
136   98

$$136 \;+\; 98 \;=\; 234$$

(c) 634
800
?

$$800 \;-\; 634 \;=\; 166$$

(d) 342   88   270
?

$$342 \;+\; 88 \;+\; 270 \;=\; 700$$

6 Write the missing digits.

(a)
```
   3 2 6
 + 3 7 4
 ───────
   7 0 0
```

(b)
```
   6 0 8
 +   9 5
 ───────
   7 0 3
```

(c)
```
   7 0 0
 -   2 8
 ───────
   6 7 2
```

(d)
```
   4 0 4
 - 3 2 7
 ───────
     7 7
```

7 How long is each line?

A ─────────────
B ───────
C ─────────
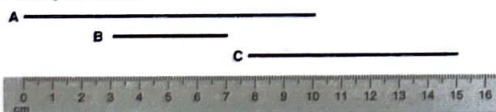
(a) Line A is about __10__ cm long.

(b) Line B is about __4__ cm long.

(c) Line C is about __7__ cm long.

---

8 A pine tree is 147 feet tall.
A redwood tree is 178 feet taller than the pine tree.
How tall is the redwood tree?

147 + 178 = 325

The redwood tree is __325__ ft tall.

9 A melon weighs 910 g.
A mango is 797 g lighter than the melon.
What does the mango weigh?

910 − 797 = 113

The mango weighs __113__ g.

Challenge

10 There are four different weights: 1 lb, 2 lb, 3 lb, and 4 lb.
How many different weights can you get using only these weights?

[weights image: 1 lb, 2 lb, 3 lb, 4 lb]

Students should be able to see they can make 1 lb, 2 lb, 3 lb, and 4 lb with one weight only, and a maximum of 10 lb with all four weights. They can then test a few combinations of 2 or 3 weights to show they can get 5 lb, 6 lb, 7 lb, 8 lb, and 9 lb as well.

You can get __10__ different weights.

Chapter 6 Multiplication and Division

Exercise 1

Basics

1 (a)

$2 + 2 + 2 = \boxed{6}$

3 groups of 2 = $\boxed{6}$

3 times 2 = $\boxed{6}$

$3 \times 2 = \boxed{6}$

(b)

4 groups of 5 = $\boxed{20}$

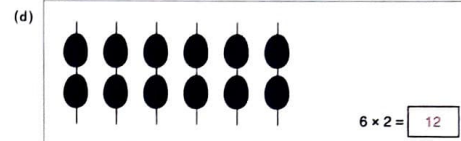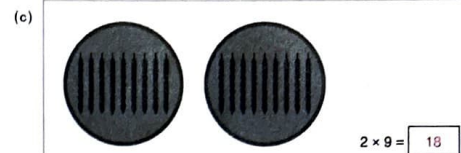$4 \times 5 = \boxed{20}$

(c)
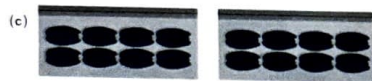
2 groups of 8 = $\boxed{16}$

$2 \times 8 = \boxed{16}$

Practice

2 Multiply.

(a)

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

(b)

$3 \times 6 = \boxed{18}$

(c)

$2 \times 9 = \boxed{18}$

(d)

$6 \times 2 = \boxed{12}$

3 (a) $5 + 5 + 5 = \boxed{3} \times 5 = \boxed{15}$

(b) $6 + 6 + 6 + 6 = \boxed{4} \times 6 = \boxed{24}$

(c) $2 + 2 + 2 + 2 + 2 + 2 + 2 = \boxed{7} \times 2 = \boxed{14}$

(d) $10 + 10 = \boxed{2} \times 10 = \boxed{20}$

4 There are 8 flowers in each planter.
How many flowers are in 3 planters?
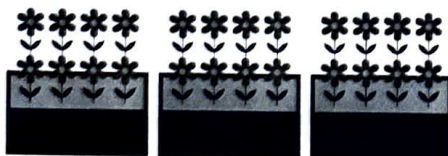
$3 \times 8 = \boxed{24}$

There are $\underline{24}$ flowers in 3 planters.

5 A bird has 2 wings.
How many wings do 8 birds have?

$8 \times 2 = \boxed{16}$

8 birds have $\underline{16}$ wings.

6 A bear has 4 legs.
How many legs do 4 bears have?

$\boxed{4} \, ⓧ \, \boxed{4} = \boxed{16}$

4 bears have $\underline{16}$ legs.

7 The stamp is 3 cm long.
What is the total length of 5 stamps?

$\boxed{5} \, ⓧ \, \boxed{3} = \boxed{15}$

The total length of 5 stamps is $\underline{15}$ cm.

Challenge

8

The total length of $\underline{9}$ nails is the same as the total length of 2 tweezers.

Exercise 2

Basics

1 (a)

$3 + 3 + 3 + 3 + 3 + 3 =$ **18** | $6 \times 3 =$ **18**

(b)
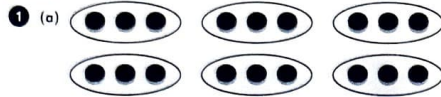
$6 + 6 + 6 =$ **18** | $3 \times 6 =$ **18**

(c) 6 groups of 3 = **3** groups of 6

2

$7 \times 4 =$ **28**

$4 \times 7 =$ **28**

$7 \times$ **4** $= 4 \times 7$

Practice

3 Match.

4
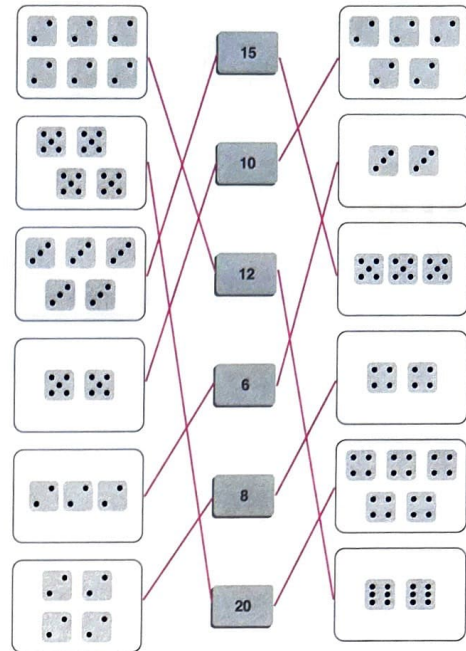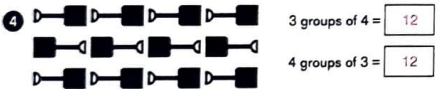
3 groups of 4 = **12**

4 groups of 3 = **12**

5

$2 \times 10 =$ **20** | $10 \times 2 =$ **20**

6 Write two different multiplication equations to find the total number of hair clips.
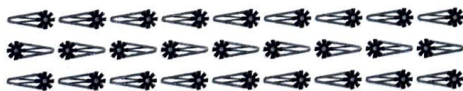
9 $\times$ **3** $=$ **27** | **3** $\times$ **9** $=$ **27**

7 Complete the multiplication equations to find the total number of jelly beans.

$9 \times$ **2** $=$ **18** | $6 \times$ **3** $=$ **18**

2 $\times 9 =$ **18** | **3** $\times 6 =$ **18**

8 (a) $2 \times 10 =$ **10** $\times 2$ (b) $5 \times$ **6** $= 6 \times 5$

(c) $7 \times 9 = 9 \times$ **7** (d) **6** $\times 8 = 8 \times 6$

(e) $1 \times$ **20** $= 20 \times 1$ (f) $100 \times 2 = 2 \times$ **100**

Challenge

9 ✶ + ✶ + ✶ + ✶ = ✶ × ✶

✶ stands for **4**.

10 There are 24 boats.
Each boat has 3 people in it.
How many people are in the boats in all?

$24 + 24 + 24 = 72$

Since 3 groups of 24 has the same total as 24 groups of 3, the answer can be found by adding 24 three times.

There are **72** people in the boats in all.

11 There are 258 ducks in a park.
Each duck has 2 legs.
How many duck legs are there?

$258 + 258 = 516$

There are **516** duck legs.

Exercise 3

Check

1 (a)

| 4 | groups of | 3 | = | 12 |

(b)

$4 \times 5 =$ 20

(c)

$5 \times 4 =$ 20

(d)

$7 \times 2 =$ 14

2 (a) $8 + 8 + 8 + 8 + 8 =$ 5 $\times 8$

(b) 4 groups of $9 = 4 \times$ 9
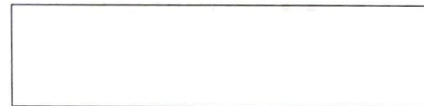
(c) $8 \times 10 = 10 \times$ 8

3 Draw a picture to show each of the following:

(a) 3 groups of 3

(b) 8 groups of 2

(c) 2×8

(d) 4×10

4

| 3 groups of | 5 | = | 15 |
| 5 groups of | 3 | = | 15 |

5

$4 \times$ 6 $= 24$ $6 \times$ 4 $= 24$

$3 \times$ 8 $= 24$ $8 \times$ 3 $= 24$

6 There are 7 markers in each can.
How many markers are in 3 cans?

3 $\times$ 7 $=$ 21

There are ___21___ markers in 3 cans.

7 There are 10 pens in each pack.
How many pens are in 5 packs?

5 $\times$ 10 $=$ 50

There are ___50___ pens in 5 packs.

8 Each nickel is 5 cents.
How many cents are 3 nickels?

3 $\times$ 5 $=$ 15

3 nickels are ___15___ cents.

Challenge

9 $(2 \times 4) + 2 =$ 10

10 Paula has 3 nickels and 4 pennies.
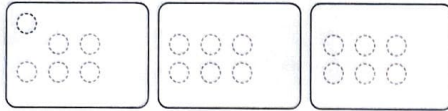Complete the equation and find the total cents.

(3 $\times$ 5) $+$ 4 $=$ 19

Exercise 4

Basics

1 There are 18 balls.
3 people share them equally.
How many does each person get?
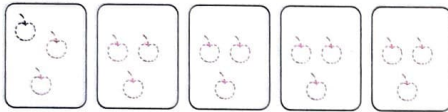Draw more balls to show 18 balls shared into 3 equal groups.

Each person gets ___6___ balls.

18 shared into ___3___ groups is ___6___ in each group.

18 ÷ 3 = [6]

18 divided by ___3___ equals ___6___ .

2 Draw more cherries to show 15 cherries divided into 5 equal groups.

There are ___3___ cherries in each group.

15 ÷ 5 = [3]

Practice

3 Aki put 21 markers equally into 3 cans.

21 ÷ 3 = [7]

There are ___7___ markers in each can.

4 Divide 16 erasers into 2 equal groups.

16 ÷ 2 = [8]

There are ___8___ erasers in each group.

5 Divide 12 shells into 4 equal groups.

12 ÷ 4 = [3]

There are ___3___ shells in each group.

6 Draw more ✘ to find the number in each group.

(a) 24 divided into 6 groups
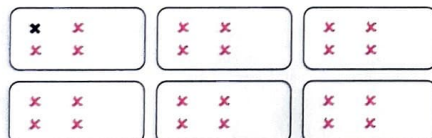
[24] ÷ [6] = [4]

(b) 24 divided into 4 groups
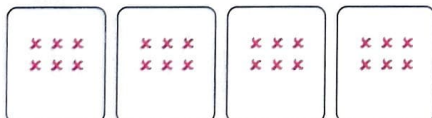
[24] ÷ [4] = [6]

(c) 15 divided into 3 groups
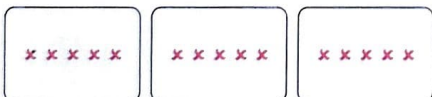
[15] ÷ [3] = [5]

7 Jordan put 24 beads equally on 3 strings.
Draw more beads to find how many are on each string.

[24] ÷ [3] = [8]

There are ___8___ beads on each string.

Challenge

8 Sebastian wants to share 9 crayons equally with a friend.

Can he share them equally? ___no___

How many crayons are left over? ___1___

9 Divide 17 counters into 5 equal groups, with as few left over as possible.
How many are left over?

17 ÷ 5 is ___3___ with ___2___ left over.

Exercise 5

Basics

1 Mayam has 18 balls.
She put 3 balls in each can.
How many cans does she use?

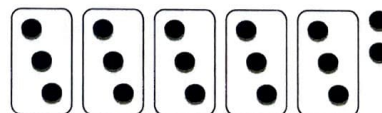____6____ cans are used.

18 grouped by ___3___ is ___6___ groups.

18 ÷ 3 = ⬚6⬚

18 divided by ___3___ equals ___6___.

2 Divide 35 beads into groups of 7.
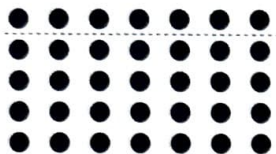
There are ___5___ groups.

35 ÷ 7 = ⬚5⬚

Practice

3 There are 18 almonds.
Circle groups of 2.

18 ÷ 2 = ⬚9⬚

There are ___9___ groups of 2 almonds.

4 There are 24 blackberries.
Circle groups of 8.
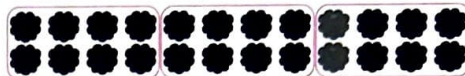
24 ÷ 8 = ⬚3⬚

There are ___3___ groups of 8 blackberries.

5 There are 9 strawberries.
Circle groups of 3.

9 ÷ 3 = ⬚3⬚

There are ___3___ groups of 3 strawberries.

6 Find the number of groups.

(a) Divide 24 into groups of 4.

⬚24⬚ ÷ ⬚4⬚ = ⬚6⬚

(b) Divide 24 into groups of 6.
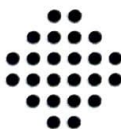
⬚24⬚ ÷ ⬚6⬚ = ⬚4⬚

(c) Divide 28 into groups of 7.

⬚28⬚ ÷ ⬚7⬚ = ⬚4⬚

7 Luke has 18 eggs.
He puts 6 eggs in each carton.
How many egg cartons does he need?

⬚18⬚ ÷ ⬚6⬚ = ⬚3⬚

He needs ___3___ egg cartons.

Challenge

8 Shanice has 34 pennies.
She wants to trade them for as many nickels as she can.
How many nickels and pennies will she have then?
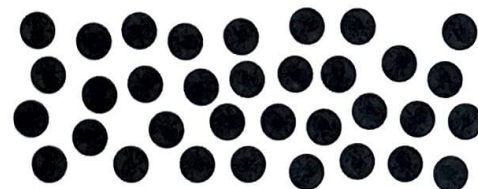
She will have ___6___ nickels and ___4___ pennies.

34 ÷ 5 is ___6___ with ___4___ left over.

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Exercise 6

Basics

1

$6 \times 3 = \boxed{18}$

$18 \div 6 = \boxed{3}$

$3 \times 6 = \boxed{18}$

$18 \div 3 = \boxed{6}$

Practice

2 Write four related multiplication and division equations for each array.

(a)

$\boxed{2} \times \boxed{7} = \boxed{14}$

$\boxed{7} \times \boxed{2} = \boxed{14}$

$\boxed{14} \div \boxed{2} = \boxed{7}$

$\boxed{14} \div \boxed{7} = \boxed{2}$

(b)

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

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

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

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

Practice

3 Write four different equations using these numbers and signs.

| 4 | 20 | = | × | 5 | ÷ |

$4 \times 5 = 20$

$20 \div 4 = 5$

$5 \times 4 = 20$

$20 \div 5 = 4$

4 Write × or ÷ in each ◯.

(a) $2 \textcircled{\times} 4 = 8$

(b) $10 \textcircled{\times} 2 = 20$

(c) $9 \textcircled{\div} 3 = 3$

(d) $16 \textcircled{\div} 4 = 4$

(e) $7 \textcircled{\times} 8 = 56$

(f) $63 \textcircled{\div} 9 = 7$

5 Complete the equations.

(a) How many pebbles are there in all?

$5 \textcircled{\times} \boxed{3} = \boxed{15}$

There are __15__ pebbles in all.

(b) How many pebbles are in each group?

$15 \textcircled{\div} \boxed{5} = \boxed{3}$

There are __3__ pebbles in each group.

Exercise 7

Check

1. (a) $5 + 5 + 5 + 5 =$ [4] $\times 5 =$ [20]

   (b) $3 + 3 + 3 =$ [3] $\times 3 =$ [9]

   (c) $6 + 6 =$ [2] $\times 6 =$ [12]

   (d) $10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 =$ [8] $\times 10 =$ [80]

2. Draw 3 flowers in each vase.
   How many flowers are there in all?

   $6 \times 3 =$ [18]

   There are __18__ flowers in all.

3. Draw another 3 tanks with 4 fish in each tank.
   How many fish are there in all?

   $4 \times 4 =$ [16]

   There are __16__ fish in all.

---

4. A ribbon is 12 cm long.

   (a) If it is cut into pieces each 6 cm long, how many pieces will there be?

   [12] $\div$ [6] $=$ [2]

   There will be __2__ pieces.

   (b) If it is cut in 3 pieces each the same length, how long will each piece be?

   [12] $\div$ [3] $=$ [4]

   Each piece will be __4__ cm long.

5. There are 30 cookies.

   (a) If the cookies are put equally into 5 boxes, how many cookies will be in each box?

   [30] $\div$ [5] $=$ [6]

   There will be __6__ cookies in each box.

   (b) If 10 cookies are put in each box, how many boxes will there be?

   [30] $\div$ [10] $=$ [3]

   There will be __3__ boxes.

---

6. Write two multiplication and two division equations using these numbers.

   50   10   5

   [5] ⓧ [10] $=$ [50]   [50] ⓓ [5] $=$ [10]

   [10] ⓧ [5] $=$ [50]   [50] ⓓ [10] $=$ [5]

7.

   [2] $\times 7 = 14$ $7 \times$ [2] $= 14$

   $14 \div$ [2] $= 7$ $14 \div 7 =$ [2]

8. Each spider has 8 legs.

   (a) If there are 3 spiders, how many legs are there?

   3 ⓧ [8] $=$ [24]

   There are __24__ legs.

   (b) If there are 16 legs, how many spiders are there?

   16 ⓓ [8] $=$ [2]

   There are __2__ spiders.

9.

   $3 \times 4 = 6 \times$ [2]

Challenge

10.
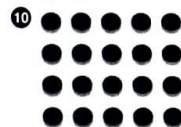
   $20 \div 2 = 5 \times$ [2]

11. Write $+$, $-$, $\times$ or $\div$ in each ○.

   (a) 10 ⓧ $5 = 50$ (b) 10 ⓓ $5 = 2$

   (c) 10 ⊖ $5 = 5$ (d) 2 ⓧ $10 = 20$

   (e) 4 ⊕ $2 = 6$ (f) 8 ⓓ $4 = 2$

   (g) 8 ⓓ $2 = 4$ (h) 8 ⊖ $2 = 6$

   (i) 3 ⓧ $3 = 9$ (j) 3 ⊕ $3 = 6$

   (k) 6 ⊖ $3 = 3$ (l) 6 ⓓ $3 = 2$

12. $6 \times 5 = 5 + 5 + 5 + 5 +$ [10]

13. $7 \times 4 = 4 + 4 + 4 + 4 +$ [12]

Chapter 7 Multiplication and Division of 2, 5, and 10

Exercise 1

Basics

1 Count by fives and complete the multiplication equations.

$1 \times 5 = \boxed{5}$

$2 \times 5 = \boxed{10}$

$3 \times 5 = \boxed{15}$

$4 \times 5 = \boxed{20}$

$5 \times 5 = \boxed{25}$

$6 \times 5 = \boxed{30}$

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

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

$9 \times 5 = \boxed{45}$

$10 \times 5 = \boxed{50}$

2 The ones digit in all the products of 5 is either __5__ or __0__ .

7-1 The Multiplication Table of 5   149

Practice

3 (a) $2 \times 5 = 5 + 5 = \boxed{10}$

(b) 3×5 is __5__ more than 2×5.

$3 \times 5 = \boxed{15}$

(c) 4×5 is 5 more than __3__ $\times 5$.

$4 \times 5 = \boxed{20}$

(d) $5 \times 5 = \boxed{20} + 5 = \boxed{25}$

(e) $10 \times 5 = \boxed{50}$

(f) $9 \times 5 = 50 - \boxed{5} = \boxed{45}$

(g) $8 \times 5 = \boxed{45} - 5 = \boxed{40}$

4 Each cake has 5 candles.

(a) Find how many are on 6 cakes.

$\boxed{6} \times \boxed{5} = \boxed{30}$

(b) Find how many are on 7 cakes.

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

5 Circle products of 5.

(20)   14   (45)   12   (25)   (30)   28   (55)

150   7-1 The Multiplication Table of 5

Exercise 2

Basics

1
$5 + 5 + 5 = \boxed{15}$ $3 + 3 + 3 + 3 + 3 = \boxed{15}$

$3 \times 5 = \boxed{15}$ $5 \times 3 = \boxed{15}$

2 $7 \times 5 = \boxed{35}$

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

3 $6 \times 5 = \boxed{30}$ $5 \times 6 = \boxed{30}$

$2 \times 5 = \boxed{10}$ $5 \times 2 = \boxed{10}$

$10 \times 5 = \boxed{50}$ $5 \times 10 = \boxed{50}$

$1 \times 5 = \boxed{5}$ $5 \times 1 = \boxed{5}$

$9 \times 5 = \boxed{45}$ $5 \times 9 = \boxed{45}$

$4 \times 5 = \boxed{20}$ $5 \times 4 = \boxed{20}$

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

$3 \times 5 = \boxed{15}$ $5 \times 3 = \boxed{15}$

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

$5 \times 5 = \boxed{25}$ $5 \times 5 = \boxed{25}$

7-2 Multiplication Facts of 5   151

Practice

4 Match.

5×3 ⟩ ─── ⟨ 5 ⟩   ⟨ 5×8

5×6 ⟩ ─── ⟨ 30 ⟩   ⟨ 5×5

8×5 ⟩ ─── ⟨ 45 ⟩   ⟨ 10×5

5×1 ⟩ ─── ⟨ 10 ⟩   ⟨ 1×5

7×5 ⟩ ─── ⟨ 35 ⟩   ⟨ 5×4

4×5 ⟩ ─── ⟨ 40 ⟩   ⟨ 5×7

5×10 ⟩ ─── ⟨ 25 ⟩   ⟨ 5×2

2×5 ⟩ ─── ⟨ 50 ⟩   ⟨ 6×5

5×5 ⟩ ─── ⟨ 20 ⟩   ⟨ 5×9

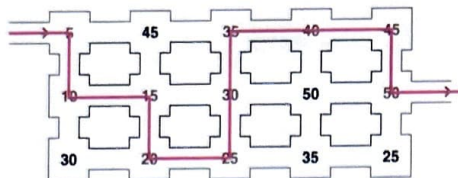9×5 ⟩ ─── ⟨ 15 ⟩   ⟨ 3×5

152   7-2 Multiplication Facts of 5

Exercise 3

Check

1 Count by fives and draw a path passing through the numbers in the correct order.

5	45		35		40		45
10	15		30	50		58
30	20	25	35		25

2 (a) 7 × 5 is ___5___ more than 6 × 5.

(b) 8 × 5 is 5 more than ___7___ × 5.

(c) 8 × 5 is 5 less than ___9___ × 5.

(d) 7 × 5 is ___10___ more than 5 × 5.

(e) 8 × 5 is 10 less than ___10___ × 5.

3 Write two different multiplication equations for the array.

| 5 | × | 9 | = | 45 |
| 9 | × | 5 | = | 45 |

4 (a) 5 × 6 = 30

(b) 5 × 2 = 10

(c) 9 × 5 = 45

(d) 1 × 5 = 5

(e) 5 × 3 = 15

(f) 7 × 5 = 35

(g) 2 × 5 = 10

(h) 4 × 5 = 20

(i) 5 × 7 = 35

(j) 5 × 10 = 50

(k) 10 × 5 = 50

(l) 5 × 9 = 45

(m) 5 × 5 = 25

(n) 8 × 5 = 40

(o) 5 × 4 = 20

(p) 3 × 5 = 15

(q) 5 × 8 = 40

(r) 6 × 5 = 30

5 (a) 5 × 5 = 25

(b) 5 × 3 = 15

(c) 8 × 5 = 40

(d) 5 × 6 = 30

6 There are 5 pretzels in each box.
How many pretzels are in 10 boxes?

| 10 | × | 5 | = | 50 |

There are ___50___ pretzels altogether.

7 There are 6 eggs in each carton.
How many eggs are in 5 cartons?

| 5 | × | 6 | = | 30 |

There are ___30___ eggs in 5 cartons.

8 Matthew saved $5 a week.
How much did he save in 7 weeks?

| 7 | × | 5 | = | 35 |

He saved $___35___ in 7 weeks.

9 Cora saved $8 a week.
How much did she save in 5 weeks?

| 5 | × | 8 | = | 40 |

She saved $___40___ in 5 weeks.

10 Andrei's puppy weighed 5 lb.
It is now full grown and is 9 times heavier.
How much does Andrei's dog now weigh?

9 × 5 = 45

His dog now weighs ___45___ pounds.

Challenge

11 Rowan has 9 stickers on each of 5 pages.
Taylor has 5 stickers on each of 7 pages.
Who has more stickers and how much more?
Rowan: 5 × 9 = 45
Taylor: 7 × 5 = 35
45 − 35 = 10

Rowan has ___10___ more stickers than _Taylor_ .

12 5 × 5 = ✹ + ✹ + 5

The ✹ stands for ___10___ .

13 Ximena has 10 pads of watercolor paper.
Each pad has 5 sheets of watercolor paper.
She has used all the sheets from 4 pads and 3 sheets from the 5th pad.

(a) How many sheets has she used?
4 × 5 = 20
20 + 3 = 23

She has used ___23___ sheets.

(b) How many sheets does she have left?
10 × 5 = 50 (total sheets)   Or, 5 pads and 2 sheets left.
50 − 23 = 27   5 × 5 + 2 = 27

She has ___27___ sheets left.

Teacher's Guide 2A Chapter 7   225

Exercise 4

Basics

1 Count by twos and complete the multiplication equations.

$1 \times 2 =$ 2

$2 \times 2 =$ 4

$3 \times 2 =$ 6

$4 \times 2 =$ 8

$5 \times 2 =$ 10

$6 \times 2 =$ 12

$7 \times 2 =$ 14

$8 \times 2 =$ 16

$9 \times 2 =$ 18

$10 \times 2 =$ 20

2 The ones digit in the products of 2 are

_2_ , _4_ , _6_ , _8_ , or _0_ .

Practice

3 (a) $2 \times 2 = 2 + 2 =$ 4

(b) 3×2 is _2_ more than 2×2.

(c) $5 \times 2 =$ 10

(d) 4×2 is 2 less than _5_ $\times 2$.

$4 \times 2 =$ 8

(e) 6×2 is 2 more than _5_ $\times 2$.

$6 \times 2 =$ 12

(f) $9 \times 2 = 20 -$ 2 $=$ 18

4 There are 2 socks in each pair of socks.

(a) Find out how many socks are in 7 pairs.

7 $\times$ 2 $=$ 14

(b) Find out how many socks are in 8 pairs.

8 $\times$ 2 $=$ 16

5 Circle products of 2.

(20) (14) (12) 19 9 (12) (6) 19

Exercise 5

Basics

1

$2 + 2 + 2 + 2 + 2 + 2 =$ 12

$6 \times 2 =$ 12

$6 + 6 =$ 12

$6 \times 2 =$ 12

2 $9 \times 2 =$ 18

$2 \times 9 =$ 18

3
$3 \times 2 =$ 6 | $2 \times 3 =$ 6

$7 \times 2 =$ 14 | $2 \times 7 =$ 14

$5 \times 2 =$ 10 | $2 \times 5 =$ 10

$1 \times 2 =$ 2 | $2 \times 1 =$ 2

$9 \times 2 =$ 18 | $2 \times 9 =$ 18

$4 \times 2 =$ 8 | $2 \times 4 =$ 8

$8 \times 2 =$ 16 | $2 \times 8 =$ 16

$10 \times 2 =$ 20 | $2 \times 10 =$ 20

$6 \times 2 =$ 12 | $2 \times 6 =$ 12

$2 \times 2 =$ 4 | $2 \times 2 =$ 4

Practice

4 Match.

7×2 6 9×2

2×4 16 3×2

2×9 12 2×5

10×2 4 2×10

2×2 8 2×2

5×2 14 6×2

1×2 20 2×1

2×6 10 2×8

2×3 2 4×2

8×2 18 2×7

Teacher's Guide 2A Chapter 7

Exercise 6

Check

1. Count by twos and draw a path passing through the numbers in the correct order.
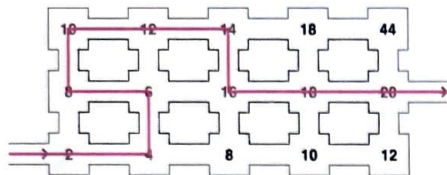
2. (a) 5×2 is ___2___ more than 4×2.

   (b) 10×2 is 2 less than ___11___ $\times 2$.

   (c) 6×2 is 2 more than ___5___ $\times 2$.

   (d) 8×2 is 2 more than ___14___.

   (e) 9×2 is 2 less than ___20___.

3. Write two different multiplication equations for the array.

   | 7 | × | 2 | = | 14 |
   | 2 | × | 7 | = | 14 |

   ● ● ● ● ● ● ●
   ● ● ● ● ● ● ●

4. (a) $4 \times 2 =$ **8**   (b) $8 \times 2 =$ **16**

   (c) $2 \times 10 =$ **20**   (d) $2 \times 7 =$ **14**

   (e) $7 \times 2 =$ **14**   (f) $2 \times 4 =$ **8**

   (g) $2 \times 6 =$ **12**   (h) $2 \times 1 =$ **2**

   (i) $2 \times 2 =$ **4**   (j) $5 \times 2 =$ **10**

   (k) $2 \times 9 =$ **18**   (l) $2 \times 3 =$ **6**

   (m) $2 \times 8 =$ **16**   (n) $10 \times 2 =$ **20**

   (o) $2 \times 5 =$ **10**   (p) $6 \times 2 =$ **12**

   (q) $3 \times 2 =$ **6**   (r) $9 \times 2 =$ **18**

5. If you add all the numbers in the box, the answer is the same as

   | 5 | 7 |
   | 1 | 3 |

   $2 \times$ ___8___.

6. Kai bought 7 toy cars.
   Each car cost $2.
   How much money did he spend?

   | 7 | × | 2 | = | 14 |

   He spent $___14___.

7. Lisa bought 2 packs of 6 markers.
   How many markers did she buy?

   | 2 | × | 6 | = | 12 |

   She bought ___12___ markers.

8. A pound of fish costs $7.
   How much do 2 pounds of fish cost?

   | 2 | × | 7 | = | 14 |

   2 pounds of fish cost $___14___.

9. The length of a side of a square is 2 meters.
   What is the total length of 4 sides of the square?

   2 m

   | 4 | × | 2 | = | 8 |

   The total length is ___8___ meters.

10. Some rope was cut into 2 pieces.
    Each piece was 9 m long.
    How long was the rope before it was cut?

    | 2 | × | 9 | = | 18 |

    The rope was ___18___ m long.

Challenge

11. Circle the products of 2 that are greater than 2×5 and less than 5×4.

    15   (12)   5   (18)   (16)   (14)   8   10

12. Count by twos starting at 1.
    Write the missing numbers.

    | 1 | → | 3 | → | 5 | → | 7 | → | 9 |

    | 11 | → | 13 | → | 15 | → | 17 | → | 19 |
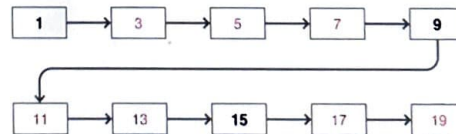
    The ones digit in these numbers are

    ___1___, ___3___, ___5___, ___7___, or ___9___.

    Are these numbers products of 2?
    Circle yes or no.

    Yes   (No)

    If you add ___1___ to each of the numbers above, the answer is a product of 2.

Exercise 7

Basics

1 Count by tens and complete the multiplication equations.

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

$2 \times 10 = \boxed{20}$

$3 \times 10 = \boxed{30}$

$4 \times 10 = \boxed{40}$

$5 \times 10 = \boxed{50}$

$6 \times 10 = \boxed{60}$

$7 \times 10 = \boxed{70}$

$8 \times 10 = \boxed{80}$

$9 \times 10 = \boxed{90}$

$10 \times 10 = \boxed{100}$

2 The ones digit in all the products of 10 is __0__.

Practice

3 (a) $10 \times 2 = \boxed{2} \times 10$ (b) $10 \times 5 = 5 \times \boxed{10}$

4 (a) $10 \times 6 = \boxed{60}$ (b) $8 \times 10 = \boxed{80}$

(c) $10 \times 3 = \boxed{30}$ (d) $9 \times 10 = \boxed{90}$

(e) $10 \times 4 = \boxed{40}$ (f) $7 \times 10 = \boxed{70}$

5 There are 10 trees in each row.
How many trees are in 9 rows?

$\boxed{9} \times \boxed{10} = \boxed{90}$

There are __90__ trees altogether.

6 There are 8 chairs in one row.
How many chairs are in 10 rows?

$\boxed{10} \; ⊗ \; \boxed{8} = \boxed{80}$

There are __80__ chairs altogether.

7 Manuel bought 10 m of cloth.
Each meter cost $4.
How much did he spend?

$10 \times 4 = 40$

He spent $__40__.

Exercise 8

Basics

1 (a) Mei has 14 socks to sort into pairs.
How many pairs of socks does she have?

___7___ groups of 2 is 14.

$\boxed{7}$ × 2 = 14

14 grouped by 2 is ___7___ groups.

14 ÷ 2 = $\boxed{7}$

She has ___7___ pairs of socks.

(b) Sofia links up 14 train cars into two trains with the same number of cars.
How many train cars are in each train?

2 groups of ___7___ is 14.

2 × $\boxed{7}$ = 14

14 shared between 2 groups is ___7___ in each group.

14 ÷ 2 = $\boxed{7}$

There are ___7___ train cars in each train.

Practice

2    $\boxed{6}$ × 2 = 12 $\boxed{1}$ × 2 = 2

12 ÷ 2 = $\boxed{6}$ 2 ÷ 2 = $\boxed{1}$

$\boxed{5}$ × 2 = 10 $\boxed{8}$ × 2 = 16

10 ÷ 2 = $\boxed{5}$ 16 ÷ 2 = $\boxed{8}$

$\boxed{2}$ × 2 = 4 $\boxed{10}$ × 2 = 20

4 ÷ 2 = $\boxed{2}$ 20 ÷ 2 = $\boxed{10}$

$\boxed{9}$ × 2 = 18 $\boxed{3}$ × 2 = 6

18 ÷ 2 = $\boxed{9}$ 6 ÷ 2 = $\boxed{3}$

$\boxed{4}$ × 2 = 8 $\boxed{7}$ × 2 = 14

8 ÷ 2 = $\boxed{4}$ 14 ÷ 2 = $\boxed{7}$

3 (a) $\boxed{20}$ ÷ 2 = 10   (b) $\boxed{10}$ ÷ 2 = 5

(c) $\boxed{12}$ ÷ 2 = 6   (d) $\boxed{16}$ ÷ 2 = 8

(e) $\boxed{14}$ ÷ 2 = 7   (f) $\boxed{18}$ ÷ 2 = 9

4 Match.

8 ÷ 2   1
16 ÷ 2   2
4 ÷ 2   3
12 ÷ 2   4
20 ÷ 2   5
14 ÷ 2   6
6 ÷ 2   7
18 ÷ 2   8
2 ÷ 2   9
10 ÷ 2   10
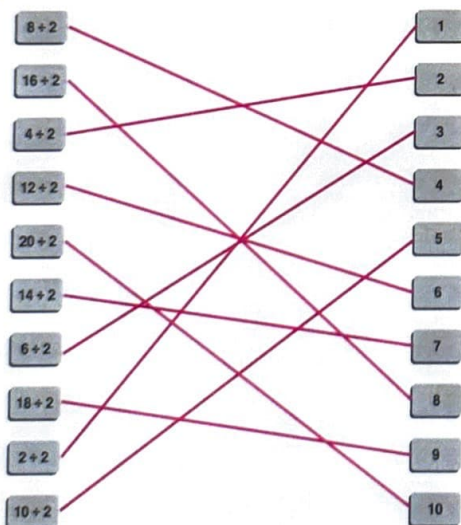
5 Avery and Dana share a box of 12 colored pencils equally.
How many colored pencils does each girl get?

12 ÷ 2 = $\boxed{6}$

Each girl gets ___6___ colored pencils.

6 Mrs. Huber has 20 roses.
She puts 2 roses in each vase.
How many vases does she use?

20 ÷ 2 = $\boxed{10}$

She uses ___10___ vases.

7 Divide 16 children equally into 2 groups.
How many children are in each group?

$\boxed{16}$ $\boxed{÷}$ $\boxed{2}$ = $\boxed{8}$

There are ___8___ children in each group.

8 Mr. Jung has a rope that is 18 m long.
He cuts it into equal pieces that are each 2 m long.
How many pieces of rope does he have?

18 ÷ 2 = 9

He has ___9___ pieces of rope.

Challenge

9 A tailor bought 14 m of cloth on Tuesday.
Starting on Wednesday, he cut off 2 m of cloth each day to use.
On Sunday, he did not cut any cloth.
On what day of the week did he make the last cut?

He only has to make 6 cuts to cut it into 7 pieces.
6th day counting Wednesday but skipping Sunday, is Tuesday.
Students can draw a picture.

He made the last cut on ___Tuesday___.

Teacher's Guide 2A Chapter 7

Exercise 9

Basics

1 Alex has 40 marbles.

(a) If he puts 5 marbles in each bag, how many bags will he have?

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

He will have __8__ bags.

(b) If he puts them equally in 5 bags, how many will be in each bag?

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

Each bag will have __8__ marbles.

Practice

2 (a) $\boxed{5} \times 5 = 25$ | $25 \div 5 = \boxed{5}$

(b) $\boxed{2} \times 5 = 10$ | $10 \div 5 = \boxed{2}$

(c) $\boxed{9} \times 5 = 45$ | $45 \div 5 = \boxed{9}$

(d) $\boxed{4} \times 5 = 20$ | $20 \div 5 = \boxed{4}$

(e) $\boxed{7} \times 5 = 35$ | $35 \div 5 = \boxed{7}$

(f) $\boxed{3} \times 5 = 15$ | $15 \div 5 = \boxed{3}$

(g) $\boxed{6} \times 5 = 30$ | $30 \div 5 = \boxed{6}$

(h) $\boxed{1} \times 5 = 5$ | $5 \div 5 = \boxed{1}$

3 (a) $\boxed{4} \times 10 = 40$ $40 \div 10 = \boxed{4}$

(b) $\boxed{9} \times 10 = 90$ $90 \div 10 = \boxed{9}$

(c) $\boxed{7} \times 10 = 70$ $70 \div 10 = \boxed{7}$

4 Match.

25 + 5	1
80 + 10	2
20 + 10	3
10 + 10	4
45 + 5	5
100 + 10	6
30 + 5	7
15 + 5	8
70 + 10	9
20 + 5	10
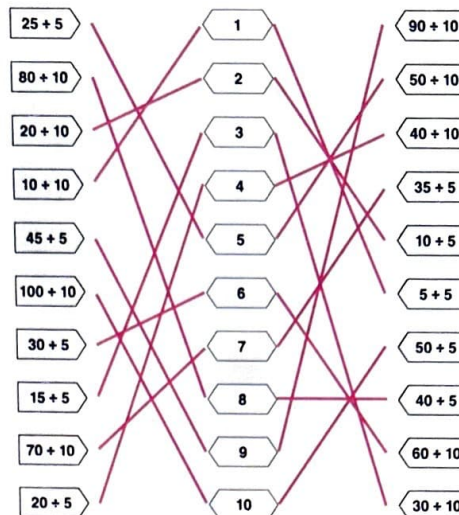
Right column: 90 + 10, 50 + 10, 40 + 10, 35 + 5, 10 + 5, 5 + 5, 50 + 5, 40 + 5, 60 + 10, 30 + 10

5 80 children line up in 10 rows for a performance.
There are the same number of children in each row.
How many children are in each row?

$\boxed{80} \div \boxed{10} = \boxed{8}$

__8__ children are in each row.

6 10 children share 90 crayons equally.
How many crayons does each child get?

$\boxed{90} \div \boxed{10} = \boxed{9}$

Each child gets __9__ crayons.

7 5 shirts cost $25.
Each shirt costs the same amount.

(a) How much does each shirt cost?

$\boxed{25} \div \boxed{5} = \boxed{5}$

Each shirt costs $__5__.

(b) Grant spent $30 on these shirts.
How many shirts did he buy?

$\boxed{30} \div \boxed{5} = \boxed{6}$

He bought __6__ shirts.

8 (a) $\boxed{40} \div 10 = 4$ (b) $\boxed{20} \div 5 = 4$

(c) $\boxed{80} \div 10 = 8$ (d) $\boxed{40} \div 5 = 8$

(e) $\boxed{70} \div 10 = 7$ (f) $\boxed{35} \div 5 = 7$

Challenge

9 Mr. Phillips has a rope that is 27 m long.
How many 5-m pieces can he cut from the rope? 5 pieces
How long will the leftover piece be? 2 m
$27 \div 5$ is 5 with 2 left over.
Check: $5 \times 5 = 25$
$25 + 2 = 27$

He can cut __5__ pieces of rope that are each 5 m long.

The leftover piece is __2__ m long.

10 Complete the number puzzle.

10	×	4	=	40
+		+		+
5	×	2	=	10
=		=		=
2	×	2	=	4

Exercise 10

Check

1 Follow the arrows and fill in the missing numbers.
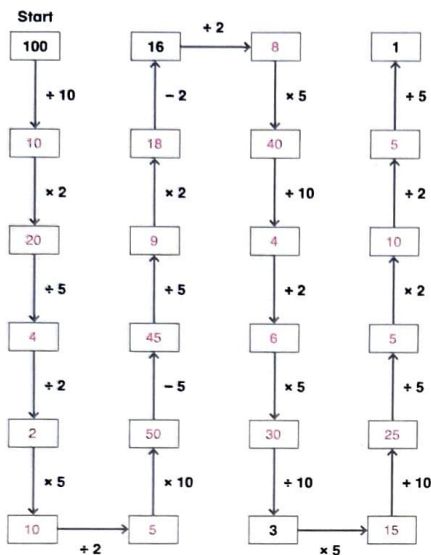
7-10 Practice C   175

2 (a) 20 ÷ 10 = [2]   (b) 20 ÷ 2 = [10]

(c) 6 ÷ 2 = [3]   (d) 60 ÷ 10 = [6]

(e) 15 ÷ 5 = [3]   (f) 14 ÷ 2 = [7]

(g) 18 ÷ 2 = [9]   (h) 45 ÷ 5 = [9]

(i) 50 ÷ 10 = [5]   (j) 70 ÷ 10 = [7]

(k) 12 ÷ 2 = [6]   (l) 90 ÷ 10 = [9]

(m) 30 ÷ 5 = [6]   (n) 35 ÷ 5 = [7]

3 One bag of flour weighs 5 kg.
How many bags weigh 40 kg?

[40] ÷ [5] = [8]

___8___ bags weigh 40 kg.

4 Mrs. King bought 2 bags of flour for $8.
How much does 1 bag of flour cost?

[8] ÷ [2] = [4]

1 bag of flour costs $___4___.

Challenge

5 10 ÷ [10] = 5 ÷ [5] = 2 ÷ [2]

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Exercise 11

Basics

1 Phyllis mixes together 26 kg of almonds and 24 kg of cashews.

(a) How many kilograms of nuts does she mix together?

26 kg   24 kg

| | cashews |

total kg?

$\boxed{26}$ + $\boxed{24}$ = $\boxed{50}$

She mixes ___50___ kg together.

(b) She puts the nuts into 5 bags equally.
How many kilograms of nuts are in each bag?

total kg

kg in each bag?

$\boxed{50}$ ÷ $\boxed{5}$ = $\boxed{10}$

Each bag has ___10___ kg of nuts.

(c) She gives away 3 bags.
How many bags does she have left?

5 bags

? bags   3 bags
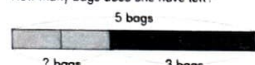
$\boxed{5}$ − $\boxed{3}$ = $\boxed{2}$

She has ___2___ bags left.

(d) How many kilograms of nuts does Phyllis have left in all?

kg in each bag

$\boxed{2}$ × $\boxed{10}$ = $\boxed{20}$

total?
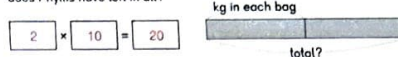
She has ___20___ kg of nuts left.

2 Phyllis dumps out her 20 kg of nuts and puts 5 kg each into smaller bags. How many smaller bags does she have?

20 kg

5 kg

$\boxed{20}$ ÷ $\boxed{5}$ = $\boxed{4}$

She has ___4___ smaller bags of nuts.

Practice

3 Nicolas runs 5 miles every day.
How many days will it take for him to run 35 miles?
Fill in the numbers on the model and write an equation.

35

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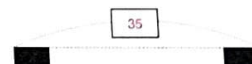
$\boxed{35}$ ÷ $\boxed{5}$ = $\boxed{7}$

It will take ___7___ days for him to run 35 miles.

4 Oliver bought 5 notebooks and 2 binders.

(a) Each notebook cost $6.
How much did the 5 notebooks cost?

$6

cost of notebooks?
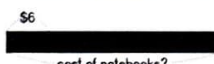
$\boxed{5}$ × $\boxed{6}$ = $\boxed{30}$

The notebooks cost $___30___.

(b) Oliver spent $46 on the notebooks and binders.
How much did the 2 binders cost?

$46

cost of notebooks   cost of binders?
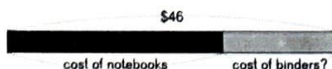
$\boxed{46}$ − $\boxed{30}$ = $\boxed{16}$

The binders cost $___16___.

(c) If each binder costs the same amount, how much does one binder cost?

cost of binders

?
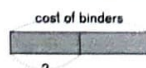
$\boxed{16}$ ÷ $\boxed{2}$ = $\boxed{8}$

1 binder costs $___8___.

Challenge

5 There are 9 posts in a straight row, each the same distance apart.
The distance from the 2nd to the 5th post is 15 ft.

(a) What is the distance from the first to the last post?

15 ft   25 ft means 5 gaps

Between any 2 posts, such as these two.

15 ÷ 3 = 5
1 gap = 5 ft   ?
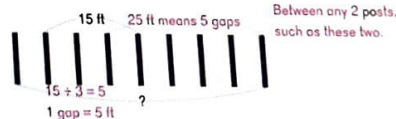
The distance from the first to the last post is ___40___ ft.

(b) The distance from one post to another post is 25 ft.
How many posts are between those two posts?
25 ÷ 5 = 5, so there are 5 gaps.
Students can use the diagram above to mark how many posts involve 5 gaps and so how many are between the two posts.
There are ___4___ posts between the two posts that are 25 ft apart.

6 If ✹ + ✹ + ✹ stands for 15,

then ✹ + ✹ + ✹ + ✹ + ✹ + ✹ stands for ___30___.

7 If ●●●●● / ●●●●● stands for 20,

(a) then ●● / ●● stands for ___8___,

(b) and ●●● / ●●● / ● stands for ___14___.

Exercise 12

Check

1 Write the numbers.

(a) 2 hundreds, 7 tens, and 4 ones is __274__.

(b) 8 hundreds and 14 ones is __814__.

(c) 7 hundreds and 10 tens is __800__.

(d) 3 tens and 2 hundreds is __230__.

2 Circle the best estimate for the length of a bed.

70 in   7 m   (7 ft)   70 cm

3 Circle the best estimate for the weight of a cat.

30 lb   300 g   (3 kg)

4

(a) Each screw is __2__ cm long.

(b) The screwdriver is __8__ cm long.

5 Add or subtract.

357 + 224

	3	5	7
+	2	2	4
	5	8	1

852 − 555

	8	5	2
−	5	5	5
	2	9	7

746 + 189

	7	4	6
+	1	8	9
	9	3	5

602 − 387

	6	0	2
−	3	8	7
	2	1	5

663 + 283

	6	6	3
+	2	8	3
	9	4	6

618 − 236

	6	1	8
−	2	3	6
	3	8	2

6 Multiply or divide.

(a) $2 \times 7 =$ 14   (b) $20 \div 2 =$ 10   (c) $50 \div 10 =$ 5

(d) $30 \div 5 =$ 6   (e) $12 \div 2 =$ 6   (f) $5 \times 5 =$ 25

(g) $5 \div 5 =$ 1   (h) $8 \times 5 =$ 40   (i) $10 \div 2 =$ 5

(j) $9 \times 5 =$ 45   (k) $35 \div 5 =$ 7   (l) $8 \div 2 =$ 4

(m) $10 \times 7 =$ 70   (n) $5 \times 6 =$ 30   (o) $4 \times 5 =$ 20

(p) $9 \times 2 =$ 18   (q) $15 \div 5 =$ 3   (r) $16 \div 2 =$ 8

7 There are 2 packs of 5 pencils in each box. There are 60 pencils altogether.

(a) How many pencils are in each box?

$2 \times 5 = 10$

There are __10__ pencils in each box.

(b) How many boxes of pencils are there?

$60 \div 10 = 6$

There are __6__ boxes of pencils.

(c) How many packs of pencils are there?

$6 \times 2 = 12$

There are __12__ packs of pencils.

8 The Eiffel Tower is 984 ft tall. The Leaning Tower of Pisa is 186 ft tall. How much shorter is the Leaning Tower of Pisa than the Eiffel Tower?

$984 - 186 = 798$

The Leaning Tower of Pisa is __798__ ft shorter than the Eiffel Tower.

9 A motorcycle weighs 197 kg. It weighs 755 kg less than a car. How much does the car weigh?

$197 + 755 = 952$

The car weighs __952__ kg.

Challenge

10 The chart shows 111 with 3 dots. Draw exactly 25 more dots to show 145.

Student can first draw 3 more in tens and 4 more ones, which is 7 more.
Then cross out a ten and replace with 10 ones twice, which adds 9 dots each time.

Hundreds	Tens	Ones
●	● ●	● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●

11 How many 🔺 will balance one ⬟?

Teacher's Guide 2A Chapter 7