

# ANSWERS

## Chapter I NUMBERS TO 1,000

### Exercise IA Count to 1,000 (1)

- (a) 102 (b) 103 (c) 108 (d) 110
- (a) 140 (b) 330 (c) 570 (d) 300
- (a) 252 (b) 364 (c) 639
- (a)  $212 = 200 + \underline{10} + \underline{2}$   
(b)  $528 = \underline{500} + \underline{20} + \underline{8}$
- (a) 165 (b) 904 (c) 520
- (a) two hundred thirteen  
(b) three hundred fifty  
(c) eight hundred nine

### Exercise IA Count to 1,000 (2)

- (a)  $\underline{4}$  hundreds  $\underline{5}$  tens  $\underline{7}$  ones  
=  $\underline{457}$   
(b)  $\underline{5}$  hundreds  $\underline{2}$  tens  $\underline{6}$  ones  
=  $\underline{526}$
- (a) 358 (b) 400 (c) 207 (d) 760
- (a) 8 (b) 9 (c) 2 (d) 4  
(e) 9
- (a)  $500 + 30 + 4 = 534$   
(b)  $800 + 0 + 9 = 809$   
(c)  $600 + 80 + 0 = 680$
- (a) 136 (b) 805 (c) 770
- (a) 1 (b) 900 (c) 40
- (a) 500 (b) 20 (c) tens (d) ones
- | Hundreds | Tens | Ones |
|----------|------|------|
| 7        | 4    | 5    |

The 3-digit number is  $\underline{745}$ .

### Exercise IB Number Patterns (1)

- (a) 760 (b) 758 (c) 769 (d) 749  
(e) 859 (f) 659
- (a) 899 (b) 503 (c) 603 (d) 202  
(e) 100 (f) 765
- I agree with Max.  
Accept all correct explanations.  
Example:

Hundreds	Tens	Ones
5	<u>1</u>	9
5	<u>0</u>	9

↻ 10 less

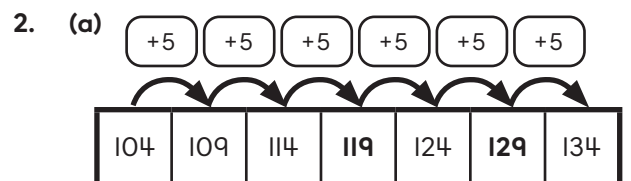
From 519, count back by 10 is 509.

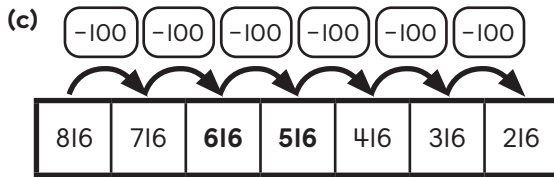
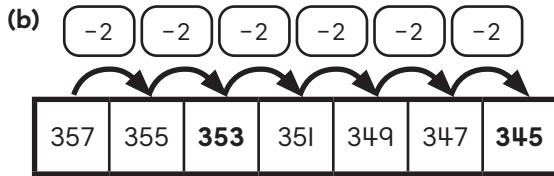
### Exercise IB Number Patterns (2)

- (a) 683,  $\underline{684}$ ,  $\underline{685}$ ,  $\underline{686}$ ,  $\underline{687}$   
(b) 683,  $\underline{693}$ ,  $\underline{703}$ ,  $\underline{713}$ ,  $\underline{723}$   
(c) 683,  $\underline{673}$ ,  $\underline{663}$ ,  $\underline{653}$ ,  $\underline{643}$   
(d) 683,  $\underline{583}$ ,  $\underline{483}$ ,  $\underline{383}$ ,  $\underline{283}$
- (a) 164, 165,  $\underline{166}$ ,  $\underline{167}$ ,  $\underline{168}$ ,  $\underline{169}$   
(b) 309, 308,  $\underline{307}$ ,  $\underline{306}$ ,  $\underline{305}$ ,  $\underline{304}$   
(c) 521,  $\underline{531}$ ,  $\underline{541}$ ,  $\underline{551}$ ,  $\underline{561}$ ,  $\underline{571}$   
(d) 830,  $\underline{820}$ ,  $\underline{810}$ ,  $\underline{800}$ ,  $\underline{790}$ ,  $\underline{780}$   
(e) 17,  $\underline{117}$ ,  $\underline{217}$ ,  $\underline{317}$ ,  $\underline{417}$ ,  $\underline{517}$   
(f) 908,  $\underline{808}$ ,  $\underline{708}$ ,  $\underline{608}$ ,  $\underline{508}$ ,  $\underline{408}$

### Exercise IB Number Patterns (3)

- (a) 2 (b) 5 (c) 10  
(d) 10 (e) 10; 1





3. (a) 253, 254, 255, 256, 257, 258, 259  
 (b) 426, 421, 416, 411, 406, 401, 396  
 (c) 709, 711, 713, 715, 717, 719, 721, 723  
 (d) 123, 133, 143, 153, 163, 173, 183, 193  
 (e) 780, 680, 580, 480, 380, 280, 180  
 (f) 605, 595, 585, 575, 565, 555

**Exercise IC Compare and Order Numbers**

1. (a) < (b) >  
 2. (a) < (b) < (c) >  
 3. (a) < (b) > (c) > (d) <  
 (e) > (f) =  
 4. (a) 

262	159
-----	-----

 (b) 

384	482
-----	-----

  
 (c) 

745	787
-----	-----

 (d) 

548	546
-----	-----

  
 5. (a) 

297	390
-----	-----

 (b) 

651	596
-----	-----

  
 (c) 

176	165
-----	-----

 (d) 

470	407
-----	-----

  
 6. (a) 328 (b) 260  
 (c)  $\frac{260}{\text{least}} < \frac{279}{\text{greatest}} < \frac{328}{\text{greatest}}$   
 7. (a) 

175	280	191
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 (b) 

237	213	231
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 8. (a) 

569	547	761
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 (b) 

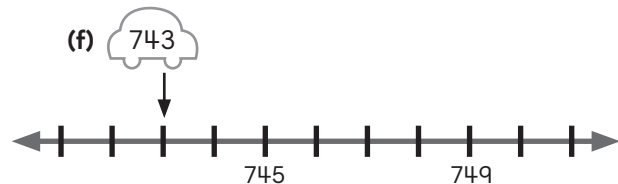
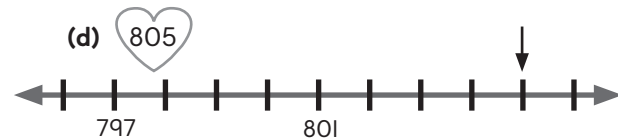
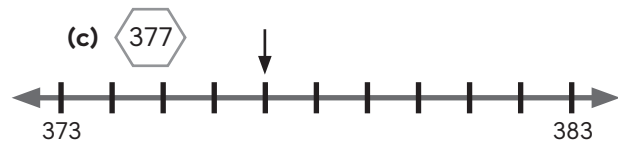
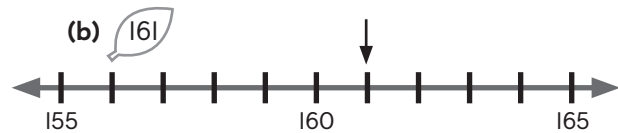
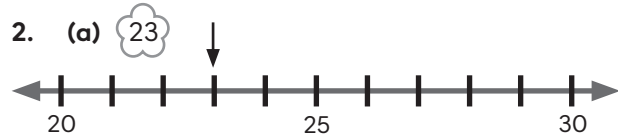
928	981	925
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10. 972  
 Accept all correct explanations. Example:  
 The greatest number should have the greatest digit in the hundreds place.  
 The digit 9 should be in the hundreds place.  
 The digit in the tens place should be greater than the digit in the ones place.  
 The digit 7 should be in the tens place and the digit 2 in the ones place.

**Exercise ID Number Lines**

1. (a) 55; 58; 60 (b) 120; 121; 125  
 (c) 431; 433; 435 (d) 565; 567; 571  
 (e) 633; 637; 640 (f) 708; 710; 711  
 (g) 983; 986; 991



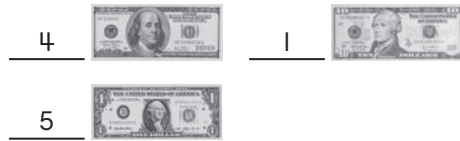
### Exercise IE Count Money (1)

- (a) 10      (b) 1      (c) 100
- (a) 7      (b) 40      (c) 900
- (a) 256      (b) 523
- (a) 2      (b) 10

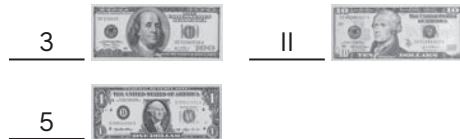
### Exercise IE Count Money (2)

1. (a) Accept all correct answers.  
Examples:

#### Way 1

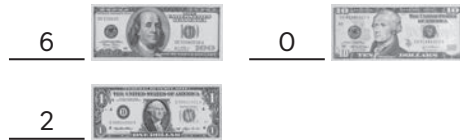


#### Way 2

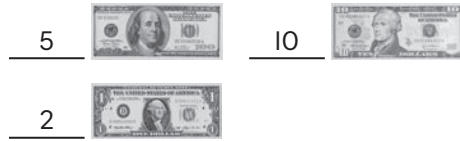


- (b) Accept all correct answers.  
Examples:

#### Way 1



#### Way 2



2. Accept all correct answers.  
Examples:

#### Way 1

Draw 3 , 2 , and 8 .

#### Way 2

Draw 2 , 12 , and 8 .

- (a) Draw 2  and 5 .
- (b) Draw 2 , 4 , and 10 .

- Draw 3 , 5 , 1 , and 5 .
- OR  
Draw 3 , 5 , 2 , and 3 .

### Exercise IE Count Money (3)

1. (a) Set A: \$ 143; Set B: \$ 147

\$ 143  \$ 147

- (b) Set A: \$ 325; Set B: \$ 319

\$ 325  \$ 319

- (c) Set A: \$ 421; Set B: \$ 421

\$ 421  \$ 421

- (d) Set A: \$ 540; Set B: \$ 550

\$ 540  \$ 550

- 2.

	Hundreds	Tens	Ones
Washing machine	7	8	5
Refrigerator	9	2	0

- (a) 920; 785      (b) Washing machine

3. (a)        (b)

- (c)        (d)

4. (a)        (b)

- (c)        (d)

- 5.

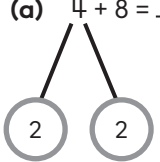
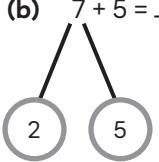
	Hundreds	Tens	Ones
Sofa	5	7	2
Dishwasher	4	9	3
Television	5	1	9

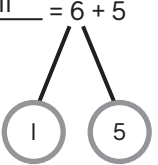
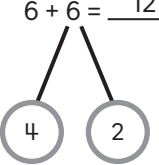
\$ 572, \$ 519, \$ 493  
greatest      least

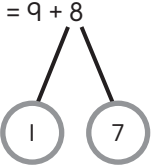


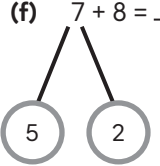
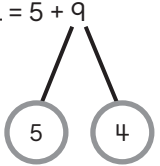
2. (a) 13 (b) 14 (c) 14 (d) 15  
 (e) 17 (f) 15 (g) 11 (h) 16
3. (a) 3 (b) 4 (c) 3 (d) 3  
 (e) 4 (f) 2 (g) 4 (h) 3

**Exercise 2A Add Fluently Within 20 (2)**

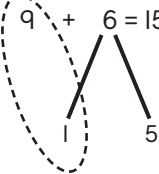
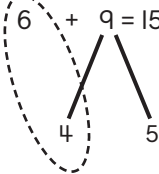
1. (a)  $4 + 8 = \underline{12}$   

- (b)  $7 + 5 = \underline{12}$   


- (c)  $\underline{11} = 6 + 5$   

- (d)  $6 + 6 = \underline{12}$   


- (e)  $\underline{17} = 9 + 8$   


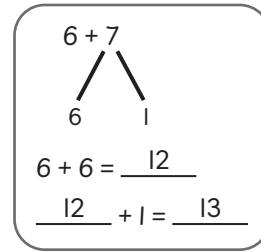
- (f)  $7 + 8 = \underline{15}$   

- (g)  $\underline{14} = 5 + 9$   


2. (a) 16 (b) 13 (c) 13 (d) 12  
 (e) 13 (f) 14 (g) 16 (h) 19  
 (i) 18 (j) 16

3.  $\overset{9}{\text{---}} + 6 = 15$   

- $\overset{6}{\text{---}} + 9 = 15$   


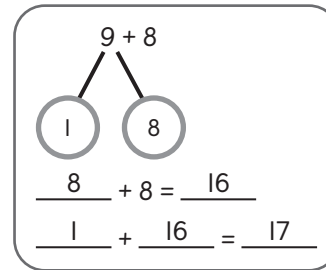
**Exercise 2A Add Fluently Within 20 (3)**

1. (a) I can use the doubles fact of 6.



$6 + 7 = \underline{13}$

- (b) I can use the doubles fact of 8.



$9 + 8 = \underline{17}$

2. (a) 1 (b) 3 (c) 9; 2
3. (a) 12 (b) 14 (c) 16 (d) 15
4. Accept all correct methods. Example:  
 Use doubles fact to add.  
 I know  $5 + 5 = 10$ .  
 So,  $7 + 5 = 2 + 5 + 5$   
 $= 2 + 10$   
 $= 12$ .

**Exercise 2B Add Tens or Hundreds (1)**

1. 2 ones + 5 ones = 7 ones

$2 + 5 = \underline{7}$

- 2 tens + 5 tens = 7 tens

$20 + 50 = \underline{70}$

2. (a) 8; 80 (b) 9; 90
3. (a) 60 (b) 40 (c) 70 (d) 90  
 (e) 90 (f) 60 (g) 80 (h) 80
4. (a) 340 (b) 270 (c) 490 (d) 750
5. (a) 160 (b) 530 (c) 820 (d) 640  
 (e) 330 (f) 290 (g) 800 (h) 1,000

### Exercise 2B Add Tens or Hundreds (2)

1. (a) 3 ones + 2 ones = 5 ones  
 $3 + 2 = \underline{5}$
- (b) 3 tens + 2 tens = 5 tens  
 $30 + 20 = \underline{50}$
- (c) 3 hundreds + 2 hundreds = 5 hundreds  
 $300 + 200 = \underline{500}$
2. (a) 700 (b) 760
3. (a) 400 (b) 500 (c) 820 (d) 870  
 (e) 930 (f) 660
4. Accept all correct answers.  
 Examples:  
 $\underline{100} + \underline{700} = 800$ ;  $\underline{400} + \underline{400} = 800$

### Exercise 2C Add Without Renaming (1)

1. (a)  $\begin{array}{r} 25 \\ + 2 \\ \hline 27 \end{array}$  (b)  $\begin{array}{r} 43 \\ + 6 \\ \hline 49 \end{array}$   
 $25 + 2 = \underline{27}$        $43 + 6 = \underline{49}$
2. (a)  $\begin{array}{r} 31 \\ + 8 \\ \hline 39 \end{array}$  (b)  $\begin{array}{r} 70 \\ + 4 \\ \hline 74 \end{array}$   
 $31 + 8 = \underline{39}$        $70 + 4 = \underline{74}$
3. (a)  $\begin{array}{r} 54 \\ + 3 \\ \hline 57 \end{array}$  (b)  $\begin{array}{r} 62 \\ + 6 \\ \hline 68 \end{array}$   
 $54 + 3 = \underline{57}$        $62 + 6 = \underline{68}$
4. (a)  $\begin{array}{r} 31 \\ + 17 \\ \hline 48 \end{array}$  (b)  $\begin{array}{r} 22 \\ + 45 \\ \hline 67 \end{array}$   
 $31 + 17 = \underline{48}$        $22 + 45 = \underline{67}$
5. (a)  $\begin{array}{r} 16 \\ + 21 \\ \hline 37 \end{array}$  (b)  $\begin{array}{r} 53 \\ + 24 \\ \hline 77 \end{array}$   
 $16 + 21 = \underline{37}$        $53 + 24 = \underline{77}$
- (c)  $\begin{array}{r} 67 \\ + 32 \\ \hline 99 \end{array}$  (d)  $\begin{array}{r} 78 \\ + 20 \\ \hline 98 \end{array}$   
 $67 + 32 = \underline{99}$        $78 + 20 = \underline{98}$

6. (a)  $\begin{array}{r} 44 \\ + 15 \\ \hline 59 \end{array}$  (b)  $\begin{array}{r} 33 \\ + 42 \\ \hline 75 \end{array}$   
 $44 + 15 = \underline{59}$        $33 + 42 = \underline{75}$
- (c)  $\begin{array}{r} 65 \\ + 13 \\ \hline 78 \end{array}$  (d)  $\begin{array}{r} 51 \\ + 38 \\ \hline 89 \end{array}$   
 $65 + 13 = \underline{78}$        $51 + 38 = \underline{89}$

7. Accept all correct pairs of numbers.  
 Example:

$$\begin{array}{r} \boxed{7} \boxed{0} \\ + \boxed{2} \boxed{5} \\ \hline 95 \end{array}$$

### Exercise 2C Add Without Renaming (2)

1. (a)  $\begin{array}{r} 116 \\ + 23 \\ \hline 139 \end{array}$  (b)  $\begin{array}{r} 205 \\ + 71 \\ \hline 276 \end{array}$   
 $116 + 23 = \underline{139}$        $205 + 71 = \underline{276}$
- (c)  $\begin{array}{r} 454 \\ + 30 \\ \hline 484 \end{array}$  (d)  $\begin{array}{r} 612 \\ + 47 \\ \hline 659 \end{array}$   
 $454 + 30 = \underline{484}$        $612 + 47 = \underline{659}$
2. (a)  $\begin{array}{r} 328 \\ + 60 \\ \hline 388 \end{array}$  (b)  $\begin{array}{r} 405 \\ + 50 \\ \hline 455 \end{array}$   
 $328 + 60 = \underline{388}$        $405 + 50 = \underline{455}$
- (c)  $\begin{array}{r} 67 \\ + 530 \\ \hline 597 \end{array}$  (d)  $\begin{array}{r} 24 \\ + 643 \\ \hline 667 \end{array}$   
 $67 + 530 = \underline{597}$        $24 + 643 = \underline{667}$
3. (a)  $\begin{array}{r} 826 \\ + 42 \\ \hline 868 \end{array}$  (b)  $\begin{array}{r} 36 \\ + 503 \\ \hline 539 \end{array}$   
 $826 + 42 = \underline{868}$        $36 + 503 = \underline{539}$
- (c)  $\begin{array}{r} 473 \\ + 26 \\ \hline 499 \end{array}$  (d)  $\begin{array}{r} 85 \\ + 712 \\ \hline 797 \end{array}$   
 $473 + 26 = \underline{499}$        $85 + 712 = \underline{797}$

4. I agree with Carla.  
Neil did not align the digits correctly when he added the numbers.  
He should align the 2 ones in "72" below the 4 ones in "204," and align the 7 tens in "72" below the 0 tens in "204."

### Exercise 2C Add Without Renaming (3)

1. (a) 
$$\begin{array}{r} 241 \\ + 135 \\ \hline 376 \end{array}$$
 (b) 
$$\begin{array}{r} 602 \\ + 217 \\ \hline 819 \end{array}$$
- $241 + 135 = \underline{376}$        $602 + 217 = \underline{819}$
- (c) 
$$\begin{array}{r} 360 \\ + 429 \\ \hline 789 \end{array}$$
 (d) 
$$\begin{array}{r} 512 \\ + 345 \\ \hline 857 \end{array}$$
- $360 + 429 = \underline{789}$        $512 + 345 = \underline{857}$
2. (a) 
$$\begin{array}{r} 331 \\ + 154 \\ \hline 485 \end{array}$$
 (b) 
$$\begin{array}{r} 428 \\ + 250 \\ \hline 678 \end{array}$$
- (c) 
$$\begin{array}{r} 382 \\ + 416 \\ \hline 798 \end{array}$$
 (d) 
$$\begin{array}{r} 107 \\ + 592 \\ \hline 699 \end{array}$$
3. (a) 
$$\begin{array}{r} 724 \\ + 235 \\ \hline 959 \end{array}$$
 (b) 
$$\begin{array}{r} 614 \\ + 251 \\ \hline 865 \end{array}$$
- (c) 
$$\begin{array}{r} 130 \\ + 804 \\ \hline 934 \end{array}$$
 (d) 
$$\begin{array}{r} 586 \\ + 302 \\ \hline 888 \end{array}$$

4. Accept all correct answers.

Example:  
 $251 + 712 = 963$

$$\begin{array}{r} \boxed{2} \boxed{5} \boxed{1} \\ + \boxed{7} \boxed{1} \boxed{2} \\ \hline 963 \end{array}$$

### Exercise 2D Add With Renaming (1)

1. (a)  $84 + 8 = \underline{92}$

$$\begin{array}{r} 84 + 8 \\ \swarrow \searrow \\ 6 \quad 2 \\ 84 + 6 = \underline{90} \\ \underline{90} + 2 = \underline{92} \end{array}$$



- (b)  $35 + 6 = \underline{41}$

$$\begin{array}{r} 35 + 6 \\ \swarrow \searrow \\ \textcircled{5} \quad \textcircled{1} \\ 35 + \underline{5} = \underline{40} \\ \underline{40} + \underline{1} = \underline{41} \end{array}$$



- (c)  $57 + 6 = \underline{63}$

$$\begin{array}{r} 57 + 6 \\ \swarrow \searrow \\ \textcircled{3} \quad \textcircled{3} \\ 57 + \underline{3} = \underline{60} \\ \underline{60} + \underline{3} = \underline{63} \end{array}$$



- (d)  $87 + 8 = \underline{95}$

$$\begin{array}{r} 87 + 8 \\ \swarrow \searrow \\ \textcircled{3} \quad \textcircled{5} \\ 87 + \underline{3} = \underline{90} \\ \underline{90} + \underline{5} = \underline{95} \end{array}$$



2. (a)  $56 + 6 = \underline{62}$  (b)  $43 + 9 = \underline{52}$

$$\begin{array}{r} 56 + 6 \\ \swarrow \searrow \\ 4 \quad 2 \end{array}$$

$$\begin{array}{r} 43 + 9 \\ \swarrow \searrow \\ 7 \quad 2 \end{array}$$

- (c)  $67 + 7 = \underline{74}$  (d)  $74 + 8 = \underline{82}$

$$\begin{array}{r} 67 + 7 \\ \swarrow \searrow \\ 3 \quad 4 \end{array}$$

$$\begin{array}{r} 74 + 8 \\ \swarrow \searrow \\ 6 \quad 2 \end{array}$$

- (e)  $5 + 38 = \underline{43}$  (f)  $7 + 49 = \underline{56}$

$$\begin{array}{r} 5 + 38 \\ \swarrow \searrow \\ 3 \quad 2 \end{array}$$

$$\begin{array}{r} 7 + 49 \\ \swarrow \searrow \\ 6 \quad 1 \end{array}$$

(g)  $9 + 55 = \underline{64}$   
 $\begin{array}{r} 9 \\ 4 \end{array} + \begin{array}{r} 55 \\ 5 \end{array}$

(h)  $8 + 76 = \underline{84}$   
 $\begin{array}{r} 8 \\ 4 \end{array} + \begin{array}{r} 76 \\ 4 \end{array}$

### Exercise 2D Add With Renaming (2)

1. (a)  $\begin{array}{r} 1 \\ 15 \\ + 19 \\ \hline 34 \end{array}$

$15 + 19 = \underline{34}$

(b)  $\begin{array}{r} 1 \\ 35 \\ + 65 \\ \hline 100 \end{array}$

$35 + 65 = \underline{100}$

2. (a)  $\begin{array}{r} 1 \\ 53 \\ + 8 \\ \hline 61 \end{array}$

(b)  $\begin{array}{r} 1 \\ 43 \\ + 59 \\ \hline 102 \end{array}$

3. (a)  $\begin{array}{r} 1 \\ 45 \\ + 36 \\ \hline 81 \end{array}$

(b)  $\begin{array}{r} 1 \\ 12 \\ + 78 \\ \hline 90 \end{array}$

(c)  $\begin{array}{r} 1 \\ 31 \\ + 69 \\ \hline 100 \end{array}$

(d)  $\begin{array}{r} 1 \\ 78 \\ + 64 \\ \hline 142 \end{array}$

4.  $53 + 47$     $62 + 38$     ~~$38 + 72$~~     $21 + 79$   
 ~~$76 + 34$~~     $44 + 56$     ~~$39 + 41$~~

### Exercise 2D Add With Renaming (3)

1. (a)  $\begin{array}{r} 1 \\ 246 \\ + 27 \\ \hline 273 \end{array}$

$246 + 27 = \underline{273}$

(b)  $\begin{array}{r} 1 \\ 129 \\ + 5 \\ \hline 134 \end{array}$

(c)  $\begin{array}{r} 1 \\ 304 \\ + 8 \\ \hline 312 \end{array}$

2. (a)  $756 + 8 = \underline{764}$   
 $\begin{array}{r} 1 \\ 756 \\ + 8 \\ \hline 764 \end{array}$

(b)  $918 + 3 = \underline{921}$   
 $\begin{array}{r} 1 \\ 918 \\ + 3 \\ \hline 921 \end{array}$

(c)  $407 + 25 = \underline{432}$   
 $\begin{array}{r} 1 \\ 407 \\ + 25 \\ \hline 432 \end{array}$

(d)  $539 + 11 = \underline{550}$   
 $\begin{array}{r} 1 \\ 539 \\ + 11 \\ \hline 550 \end{array}$

(e)  $16 + 754 = \underline{770}$   
 $\begin{array}{r} 1 \\ 754 \\ + 16 \\ \hline 770 \end{array}$

(f)  $29 + 434 = \underline{463}$   
 $\begin{array}{r} 1 \\ 434 \\ + 29 \\ \hline 463 \end{array}$

(g)  $315 + 76 = \underline{391}$   
 $\begin{array}{r} 1 \\ 315 \\ + 76 \\ \hline 391 \end{array}$

(h)  $829 + 57 = \underline{886}$   
 $\begin{array}{r} 1 \\ 829 \\ + 57 \\ \hline 886 \end{array}$

### Exercise 2D Add With Renaming (4)

1. (a)  $\begin{array}{r} 1 \\ 148 \\ + 232 \\ \hline 380 \end{array}$

$148 + 232 = \underline{380}$

(b)  $319 + 167 = \underline{486}$   
 $\begin{array}{r} 1 \\ 319 \\ + 167 \\ \hline 486 \end{array}$

(c)  $506 + 454 = \underline{960}$   
 $\begin{array}{r} 1 \\ 506 \\ + 454 \\ \hline 960 \end{array}$

2. (a)  $329 + 145 = \underline{474}$   
 $\begin{array}{r} 1 \\ 329 \\ + 145 \\ \hline 474 \end{array}$

(b)  $536 + 259 = \underline{795}$   
 $\begin{array}{r} 1 \\ 536 \\ + 259 \\ \hline 795 \end{array}$

(c)  $324 + 137 = \underline{461}$   
 $\begin{array}{r} 1 \\ 324 \\ + 137 \\ \hline 461 \end{array}$

(d)  $203 + 589 = \underline{792}$   
 $\begin{array}{r} 1 \\ 203 \\ + 589 \\ \hline 792 \end{array}$



3. No. Aiden did not add the 1 ten from the renamed 11 ones.

$$\begin{array}{r} | \\ 155 \\ + 816 \\ \hline 971 \end{array}$$

The answer is 971.

### Exercise 2D Add With Renaming (5)

1. (a)

$$\begin{array}{r} | \\ 283 \\ + 51 \\ \hline 334 \end{array}$$

$$283 + 51 = \underline{334}$$

(b)  $634 + 90 = \underline{724}$  (c)  $62 + 765 = \underline{827}$

$$\begin{array}{r} | \\ 634 \\ + 90 \\ \hline 724 \end{array}$$

$$\begin{array}{r} | \\ 765 \\ + 62 \\ \hline 827 \end{array}$$

2. (a)  $274 + 93 = \underline{367}$  (b)  $380 + 42 = \underline{422}$

$$\begin{array}{r} | \\ 274 \\ + 93 \\ \hline 367 \end{array}$$

$$\begin{array}{r} | \\ 380 \\ + 42 \\ \hline 422 \end{array}$$

(c)  $54 + 451 = \underline{505}$  (d)  $81 + 867 = \underline{948}$

$$\begin{array}{r} | \\ 451 \\ + 54 \\ \hline 505 \end{array}$$

$$\begin{array}{r} | \\ 867 \\ + 81 \\ \hline 948 \end{array}$$

3. Accept all correct explanations.

Example:

Use  $33 + 196$  as an example.

Add the ones.

$3 \text{ ones} + 6 \text{ ones} = 9 \text{ ones}$

Then add the tens.

$3 \text{ tens} + 9 \text{ tens} = 12 \text{ tens}$

Rename the tens into hundreds and tens.

$12 \text{ tens} = 1 \text{ hundred } 2 \text{ tens}$

Finally, add the hundreds.

$1 \text{ hundred} + 1 \text{ hundred} = 2 \text{ hundreds}$

$$\begin{array}{r} | \\ 196 \\ + 33 \\ \hline 229 \end{array}$$

So,  $33 + 196 = 229$ .

### Exercise 2D Add With Renaming (6)

1. (a)

$$\begin{array}{r} | \\ 376 \\ + 473 \\ \hline 849 \end{array}$$

$$376 + 473 = \underline{849}$$

(b)  $264 + 691 = \underline{955}$  (c)  $330 + 570 = \underline{900}$

$$\begin{array}{r} | \\ 264 \\ + 691 \\ \hline 955 \end{array}$$

$$\begin{array}{r} | \\ 330 \\ + 570 \\ \hline 900 \end{array}$$

2. (a)  $251 + 568 = \underline{819}$  (b)  $480 + 272 = \underline{752}$

$$\begin{array}{r} | \\ 251 \\ + 568 \\ \hline 819 \end{array}$$

$$\begin{array}{r} | \\ 480 \\ + 272 \\ \hline 752 \end{array}$$

(c)  $345 + 394 = \underline{739}$  (d)  $763 + 181 = \underline{944}$

$$\begin{array}{r} | \\ 345 \\ + 394 \\ \hline 739 \end{array}$$

$$\begin{array}{r} | \\ 763 \\ + 181 \\ \hline 944 \end{array}$$

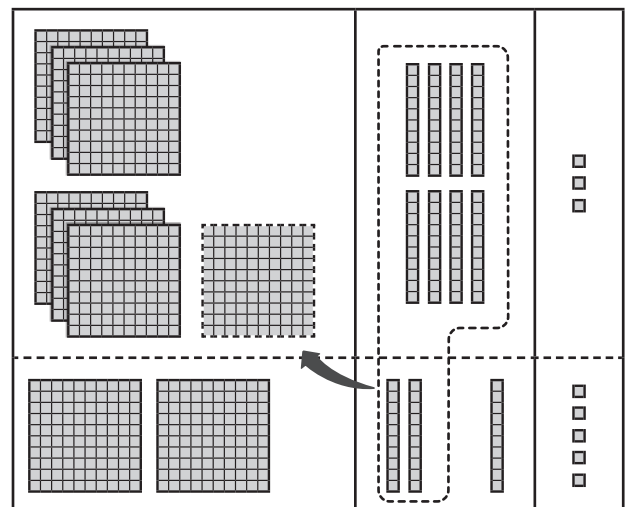
3.  $683 + 235 = 918$

$8 \text{ tens} + 3 \text{ tens} = 11 \text{ tens}$

Rename 11 tens as 1 hundred 1 ten.

Place "1 hundred" in the hundreds column, which is shown as the digit 1 above the digit 6.

The digit 1 stands for 1 hundred.



### Exercise 2D Add With Renaming (7)

1. (a)

$$\begin{array}{r} \phantom{1} \phantom{1} \\ 276 \\ + 59 \\ \hline 335 \end{array}$$

$$276 + 59 = \underline{335}$$

(b)  $365 + 78 = \underline{443}$  (c)  $69 + 583 = \underline{652}$

$$\begin{array}{r} \phantom{1} \phantom{1} \\ 365 \\ + 78 \\ \hline 443 \end{array} \quad \begin{array}{r} \phantom{1} \phantom{1} \\ 583 \\ + 69 \\ \hline 652 \end{array}$$

2. (a)  $183 + 37 = \underline{220}$  (b)  $75 + 526 = \underline{601}$

$$\begin{array}{r} \phantom{1} \phantom{1} \\ 183 \\ + 37 \\ \hline 220 \end{array} \quad \begin{array}{r} \phantom{1} \phantom{1} \\ 526 \\ + 75 \\ \hline 601 \end{array}$$

(c)  $29 + 494 = \underline{523}$  (d)  $68 + 357 = \underline{425}$

$$\begin{array}{r} \phantom{1} \phantom{1} \\ 494 \\ + 29 \\ \hline 523 \end{array} \quad \begin{array}{r} \phantom{1} \phantom{1} \\ 357 \\ + 68 \\ \hline 425 \end{array}$$

3. No. She did not add the 1 hundred from the renamed 13 tens.

$$\begin{array}{r} \phantom{1} \phantom{1} \\ 279 \\ + 56 \\ \hline 335 \end{array}$$

$$56 + 279 = 335$$

The answer is 335.

### Exercise 2D Add With Renaming (8)

1. (a)

$$\begin{array}{r} \phantom{1} \phantom{1} \\ 284 \\ + 367 \\ \hline 651 \end{array}$$

$$284 + 367 = \underline{651}$$

(b)  $165 + 695 = \underline{860}$  (c)  $247 + 458 = \underline{705}$

$$\begin{array}{r} \phantom{1} \phantom{1} \\ 165 \\ + 695 \\ \hline 860 \end{array} \quad \begin{array}{r} \phantom{1} \phantom{1} \\ 247 \\ + 458 \\ \hline 705 \end{array}$$

2. (a)  $526 + 175 = \underline{701}$  (b)  $294 + 348 = \underline{642}$

$$\begin{array}{r} \phantom{1} \phantom{1} \\ 526 \\ + 175 \\ \hline 701 \end{array}$$

$$\begin{array}{r} \phantom{1} \phantom{1} \\ 294 \\ + 348 \\ \hline 642 \end{array}$$

(c)  $365 + 257 = \underline{622}$  (d)  $682 + 129 = \underline{811}$

$$\begin{array}{r} \phantom{1} \phantom{1} \\ 365 \\ + 257 \\ \hline 622 \end{array}$$

$$\begin{array}{r} \phantom{1} \phantom{1} \\ 682 \\ + 129 \\ \hline 811 \end{array}$$

3. 1 hundred 1 ten = 11 tens  
 1 ten + 3 tens + ? tens = 11 tens  
 $11 - 1 - 3 = 7$   
 The digit in the tens place is 7.  
 1 ten 3 ones = 13 ones  
 8 ones + ? ones = 13 ones  
 $13 - 8 = 5$   
 The digit in the ones place is 5.

### Exercise 2E Add Three or Four 2-Digit Numbers

1. (a)  $27 + 18 + 43 = \underline{88}$

$$\begin{array}{r} \phantom{1} \\ 27 \\ 18 \\ + 43 \\ \hline 88 \end{array}$$

(b)  $34 + 56 + 76 = \underline{166}$

$$\begin{array}{r} \phantom{1} \\ 34 \\ 56 \\ + 76 \\ \hline 166 \end{array}$$

(c)  $69 + 45 + 72 + 35 = \underline{221}$

$$\begin{array}{r} \phantom{1} \\ 69 \\ 45 \\ 72 \\ + 35 \\ \hline 221 \end{array}$$

(d)  $92 + 27 + 59 + 67 = \underline{245}$

$$\begin{array}{r} 2 \\ 92 \\ 27 \\ 59 \\ + 67 \\ \hline 245 \end{array}$$

2. (a)  $24 + 19 + 51 = \underline{94}$

$$\begin{array}{r} 1 \\ 24 \\ 19 \\ + 51 \\ \hline 94 \end{array}$$

(b)  $55 + 64 + 76 + 85 = \underline{280}$

$$\begin{array}{r} 2 \\ 55 \\ 64 \\ 76 \\ + 85 \\ \hline 280 \end{array}$$

(c)  $93 + 78 + 99 + 87 = \underline{357}$

$$\begin{array}{r} 2 \\ 93 \\ 78 \\ 99 \\ + 87 \\ \hline 357 \end{array}$$

3. Sean chooses 99, 98, 97, and 96.

$$\begin{array}{r} 3 \\ 99 \\ 98 \\ 97 \\ + 96 \\ \hline 390 \end{array}$$

$99 + 98 + 97 + 96 = 390$

### Chapter Practice

1. B      2. C      3. D      4. C  
5. (a) 11    (b) 14    (c) 18    (d) 14

6. (a)  $52 + 37 = \underline{89}$       (b)  $58 + 838 = \underline{896}$

$$\begin{array}{r} 52 \\ + 37 \\ \hline 89 \end{array}$$

$$\begin{array}{r} 1 \\ 838 \\ + 58 \\ \hline 896 \end{array}$$

(c)  $415 + 293 = \underline{708}$       (d)  $387 + 306 = \underline{693}$

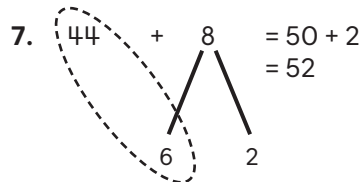
$$\begin{array}{r} 1 \\ 415 \\ + 293 \\ \hline 708 \end{array}$$

$$\begin{array}{r} 1 \\ 387 \\ + 306 \\ \hline 693 \end{array}$$

(e)  $777 + 55 = \underline{832}$       (f)  $679 + 185 = \underline{864}$

$$\begin{array}{r} 11 \\ 777 \\ + 55 \\ \hline 832 \end{array}$$

$$\begin{array}{r} 11 \\ 679 \\ + 185 \\ \hline 864 \end{array}$$



8. Accept all correct explanations.

Example:  
15 ones + 7 ones = 22 ones  
15 tens + 7 tens = 22 tens  
22 tens = 220  
 $150 + 70 = 220$

9. (a) <      (b) =      (c) >      (d) =

10. (a) 
$$\begin{array}{r} 11 \\ 3 \square 5 \\ + 486 \\ \hline 801 \end{array}$$

The missing digit is 1.

(b) 
$$\begin{array}{r} 1 \\ 719 \\ + 25 \square \\ \hline 973 \end{array}$$

The missing digit is 4.

## Chapter 3 SUBTRACTION WITHIN 1,000

### Exercise 3A Subtract Fluently Within 20 (I)

1. (a)  $19 - 3 = \underline{16}$

$$\begin{array}{r} 19 - 3 \\ \swarrow \quad \searrow \\ 10 \quad 9 \\ 9 - 3 = \underline{6} \\ 10 + \underline{6} = \underline{16} \end{array}$$



(b)  $17 - 4 = \underline{13}$

$$\begin{array}{r} 17 - 4 \\ \swarrow \searrow \\ 10 \quad 7 \end{array}$$

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

$$\begin{array}{r} 10 + 3 \\ \hline 13 \end{array}$$

(b)  $13 - 4 = \underline{9}$

$$\begin{array}{r} 13 - 4 \\ \swarrow \searrow \\ 3 \quad 10 \end{array}$$

$$\begin{array}{r} 10 \\ - 4 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 3 + 6 \\ \hline 9 \end{array}$$

(c)  $14 - 3 = \underline{11}$

$$\begin{array}{r} 14 - 3 \\ \swarrow \searrow \\ 10 \quad 4 \end{array}$$

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

$$\begin{array}{r} 10 + 1 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 13 - 4 \\ \swarrow \searrow \\ 3 \quad 10 \end{array}$$

$$\begin{array}{r} 13 \\ - 3 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array}$$

2. (a) 7 (b) 10 (c) 10 (d) 12

(e) 15 (f) 13 (g) 12 (h) 17

(i) 16 (j) 11 (k) 11 (l) 14

3. (a) 2 (b) 3 (c) 1 (d) 5

(c)  $15 - 8 = \underline{7}$

$$\begin{array}{r} 15 - 8 \\ \swarrow \searrow \\ 5 \quad 10 \end{array}$$

$$\begin{array}{r} 10 \\ - 8 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 5 + 2 \\ \hline 7 \end{array}$$

**Exercise 3A Subtract Fluently Within 20 (2)**

1. (a)  $16 - 7 = \underline{9}$

$$\begin{array}{r} 16 - 7 \\ \swarrow \searrow \\ 6 \quad 10 \end{array}$$

$$\begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 6 + 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 15 - 8 \\ \swarrow \searrow \\ 5 \quad 3 \end{array}$$

$$\begin{array}{r} 15 \\ - 5 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 10 \\ - 3 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 16 - 7 \\ \swarrow \searrow \\ 6 \quad 1 \end{array}$$

$$\begin{array}{r} 16 \\ - 6 \\ \hline 10 \end{array}$$

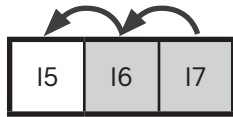
$$\begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array}$$

2. (a) 8 (b) 7 (c) 9 (d) 9

(e) 6 (f) 3 (g) 7 (h) 6

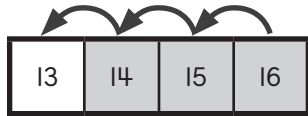
### Exercise 3A Subtract Fluently Within 20 (3)

1. (a)



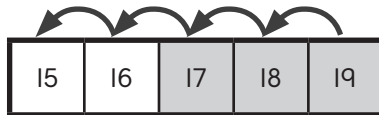
$$17 - 2 = \underline{15}$$

(b)



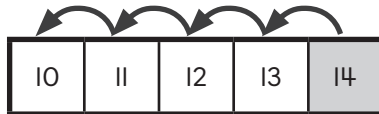
$$16 - 3 = \underline{13}$$

(c)



$$19 - 4 = \underline{15}$$

(d)



$$14 - 4 = \underline{10}$$

2. (a) 8 (b) 14 (c) 14 (d) 12

(e) 16 (f) 8 (g) 16 (h) 14

3. (a) 4 (b) 2 (c) 3 (d) 4

(e) 4 (f) 2 (g) 3 (h) 4

### Exercise 3A Subtract Fluently Within 20 (4)

1. (a) 4; 4 (b) 3; 3

2. (a) 3 (b) 3 (c) 3 (d) 4

(e) 2 (f) 4 (g) 4 (h) 4

3. (a) 2 (b) 3 (c) 4 (d) 4

(e) 4 (f) 2 (g) 3 (h) 4

### Exercise 3B Subtract Tens or Hundreds (1)

1. (a) 3; 30 (b) 3; 30 (c) 5; 50 (d) 2; 20

2. (a) 20 (b) 10 (c) 70 (d) 20

(e) 30 (f) 10 (g) 40 (h) 50

3. (a)  $150 - 40 = 110$

$$150 = \underline{15} \text{ tens}$$

$$150 - 40 = \underline{15} \text{ tens} - 4 \text{ tens}$$

$$= \underline{11} \text{ tens}$$



(b) 230 (c) 530

4. (a) 110 (b) 320 (c) 170 (d) 520

(e) 320 (f) 620 (g) 570 (h) 880

### Exercise 3B Subtract Tens or Hundreds (2)

1. (a) 7 ones - 4 ones =  $\underline{3}$  ones

$$7 - 4 = \underline{3}$$

7 tens - 4 tens =  $\underline{3}$  tens

$$70 - 40 = \underline{30}$$

7 hundreds - 4 hundreds =  $\underline{3}$  hundreds

$$700 - 400 = \underline{300}$$

(b) 9 tens - 3 tens =  $\underline{6}$  tens

$$90 - 30 = \underline{60}$$

9 hundreds - 3 hundreds =  $\underline{6}$  hundreds

$$900 - 300 = \underline{600}$$

2. (a) 2; 200 (b) 30; 300

3. (a) 100 (b) 400 (c) 258

(d) 111 (e) 540 (f) 407

4. Accept all correct answers.

Examples:

$$\underline{600} - \underline{300} = 300;$$

$$\underline{800} - \underline{500} = 300$$

### Exercise 3C Subtract Without Renaming (1)

$$\begin{array}{r} 36 \\ - 5 \\ \hline 31 \end{array}$$

$$36 - 5 = \underline{31}$$

$$\begin{array}{r} 29 \\ - 4 \\ \hline 25 \end{array}$$

$$29 - 4 = \underline{25}$$

$$\begin{array}{r} 47 \\ - 3 \\ \hline 44 \end{array}$$

$$47 - 3 = \underline{44}$$

2. (a)  $85 - 2 = \underline{83}$  (b)  $68 - 7 = \underline{61}$

$$\begin{array}{r} 85 \\ - 2 \\ \hline 83 \end{array}$$

$$\begin{array}{r} 68 \\ - 7 \\ \hline 61 \end{array}$$

(c)  $159 - 34 = \underline{125}$  (d)  $347 - 41 = \underline{306}$

$$\begin{array}{r} 159 \\ - 34 \\ \hline 125 \end{array}$$

$$\begin{array}{r} 347 \\ - 41 \\ \hline 306 \end{array}$$

3. (a)  $56 - 6 = \underline{50}$  (b)  $79 - 8 = \underline{71}$

$$\begin{array}{r} 56 \\ - 6 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 79 \\ - 8 \\ \hline 71 \end{array}$$

2. (a)  $765 - 53 = \underline{712}$  (b)  $496 - 80 = \underline{416}$

$$\begin{array}{r} 765 \\ - 53 \\ \hline 712 \end{array}$$

$$\begin{array}{r} 496 \\ - 80 \\ \hline 416 \end{array}$$

(c)  $88 - 5 = \underline{83}$  (d)  $97 - 7 = \underline{90}$

$$\begin{array}{r} 88 \\ - 5 \\ \hline 83 \end{array}$$

$$\begin{array}{r} 97 \\ - 7 \\ \hline 90 \end{array}$$

(c)  $534 - 32 = \underline{502}$  (d)  $678 - 45 = \underline{633}$

$$\begin{array}{r} 534 \\ - 32 \\ \hline 502 \end{array}$$

$$\begin{array}{r} 678 \\ - 45 \\ \hline 633 \end{array}$$

4. (a)  $44 - 12 = \underline{32}$  (b)  $67 - 46 = \underline{21}$

$$\begin{array}{r} 44 \\ - 12 \\ \hline 32 \end{array}$$

$$\begin{array}{r} 67 \\ - 46 \\ \hline 21 \end{array}$$

3. (a)  $283 - 22 = \underline{261}$  (b)  $368 - 67 = \underline{301}$

$$\begin{array}{r} 283 \\ - 22 \\ \hline 261 \end{array}$$

$$\begin{array}{r} 368 \\ - 67 \\ \hline 301 \end{array}$$

5. (a)  $25 - 11 = \underline{14}$  (b)  $78 - 43 = \underline{35}$

$$\begin{array}{r} 25 \\ - 11 \\ \hline 14 \end{array}$$

$$\begin{array}{r} 78 \\ - 43 \\ \hline 35 \end{array}$$

(c)  $944 - 31 = \underline{913}$  (d)  $857 - 45 = \underline{812}$

$$\begin{array}{r} 944 \\ - 31 \\ \hline 913 \end{array}$$

$$\begin{array}{r} 857 \\ - 45 \\ \hline 812 \end{array}$$

6. (a)  $94 - 21 = \underline{73}$  (b)  $56 - 32 = \underline{24}$

$$\begin{array}{r} 94 \\ - 21 \\ \hline 73 \end{array}$$

$$\begin{array}{r} 56 \\ - 32 \\ \hline 24 \end{array}$$

(e)  $598 - 75 = \underline{523}$  (f)  $796 - 64 = \underline{732}$

$$\begin{array}{r} 598 \\ - 75 \\ \hline 523 \end{array}$$

$$\begin{array}{r} 796 \\ - 64 \\ \hline 732 \end{array}$$

(c)  $39 - 17 = \underline{22}$  (d)  $87 - 50 = \underline{37}$

$$\begin{array}{r} 39 \\ - 17 \\ \hline 22 \end{array}$$

$$\begin{array}{r} 87 \\ - 50 \\ \hline 37 \end{array}$$

4. Accept all correct answers.  
Examples:  
 $168 - 45 = 123$ ;  $497 - 45 = 452$

7. Accept all correct answers.  
Examples:  
 $56 - 23 = 33$ ;  $84 - 23 = 61$

### Exercise 3C Subtract Without Renaming (2)

1. (a)  $469 - 26 = \underline{443}$  (b)  $278 - 52 = \underline{226}$

$$\begin{array}{r} 469 \\ - 26 \\ \hline 443 \end{array}$$

$$\begin{array}{r} 278 \\ - 52 \\ \hline 226 \end{array}$$

### Exercise 3C Subtract Without Renaming (3)

1. (a)  $334 - 112 = \underline{222}$  (b)  $265 - 140 = \underline{125}$

$$\begin{array}{r} 334 \\ - 112 \\ \hline 222 \end{array}$$

$$\begin{array}{r} 265 \\ - 140 \\ \hline 125 \end{array}$$

(c)  $478 - 316 = \underline{162}$  (d)  $329 - 203 = \underline{126}$

$$\begin{array}{r} 478 \\ - 316 \\ \hline 162 \end{array}$$

$$\begin{array}{r} 329 \\ - 203 \\ \hline 126 \end{array}$$

2. (a)  $645 - 405 = \underline{240}$  (b)  $789 - 457 = \underline{332}$

$$\begin{array}{r} 645 \\ - 405 \\ \hline 240 \end{array}$$

$$\begin{array}{r} 789 \\ - 457 \\ \hline 332 \end{array}$$

(c)  $580 - 250 = \underline{330}$  (d)  $857 - 341 = \underline{516}$

$$\begin{array}{r} 580 \\ - 250 \\ \hline 330 \end{array}$$

$$\begin{array}{r} 857 \\ - 341 \\ \hline 516 \end{array}$$

3. (a)  $276 - 145 = \underline{131}$  (b)  $809 - 703 = \underline{106}$

$$\begin{array}{r} 276 \\ - 145 \\ \hline 131 \end{array}$$

$$\begin{array}{r} 809 \\ - 703 \\ \hline 106 \end{array}$$

(c)  $356 - 246 = \underline{110}$  (d)  $918 - 305 = \underline{613}$

$$\begin{array}{r} 356 \\ - 246 \\ \hline 110 \end{array}$$

$$\begin{array}{r} 918 \\ - 305 \\ \hline 613 \end{array}$$

(e)  $429 - 217 = \underline{212}$  (f)  $885 - 860 = \underline{25}$

$$\begin{array}{r} 429 \\ - 217 \\ \hline 212 \end{array}$$

$$\begin{array}{r} 885 \\ - 860 \\ \hline 25 \end{array}$$

4. Accept all correct answers.

Examples:

$599 - 112 = 487$ ;  $788 - 301 = 487$

### Exercise 3D Subtract With Renaming (1)

1. (a)  $54 - 28 = \underline{26}$

$$\begin{array}{r} 54 \\ - 28 \\ \hline 26 \end{array}$$

$64 - 38 = \underline{26}$

(b)  $55 - 9 = \underline{46}$  (c)  $72 - 8 = \underline{64}$

$$\begin{array}{r} 55 \\ - 9 \\ \hline 46 \end{array}$$

$$\begin{array}{r} 72 \\ - 8 \\ \hline 64 \end{array}$$

(d)  $66 - 17 = \underline{49}$  (e)  $90 - 52 = \underline{38}$

$$\begin{array}{r} 66 \\ - 17 \\ \hline 49 \end{array}$$

$$\begin{array}{r} 90 \\ - 52 \\ \hline 38 \end{array}$$

2. (a)  $23 - 6 = \underline{17}$  (b)  $64 - 5 = \underline{59}$

$$\begin{array}{r} 23 \\ - 6 \\ \hline 17 \end{array}$$

$$\begin{array}{r} 64 \\ - 5 \\ \hline 59 \end{array}$$

(c)  $81 - 6 = \underline{75}$  (d)  $70 - 7 = \underline{63}$

$$\begin{array}{r} 81 \\ - 6 \\ \hline 75 \end{array}$$

$$\begin{array}{r} 70 \\ - 7 \\ \hline 63 \end{array}$$

(e)  $84 - 56 = \underline{28}$  (f)  $46 - 28 = \underline{18}$

$$\begin{array}{r} 84 \\ - 56 \\ \hline 28 \end{array}$$

$$\begin{array}{r} 46 \\ - 28 \\ \hline 18 \end{array}$$

(g)  $31 - 19 = \underline{12}$  (h)  $92 - 85 = \underline{7}$

$$\begin{array}{r} 31 \\ - 19 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 92 \\ - 85 \\ \hline 7 \end{array}$$

### Exercise 3D Subtract With Renaming (2)

1. (a)  $115 - 18 = \underline{97}$

$$\begin{array}{r} 115 \\ - 18 \\ \hline 97 \end{array}$$

$125 - 18 = \underline{107}$

(b)  $234 - 6 = \underline{228}$  (c)  $610 - 9 = \underline{601}$

$$\begin{array}{r} 234 \\ - 6 \\ \hline 228 \end{array}$$

$$\begin{array}{r} 610 \\ - 9 \\ \hline 601 \end{array}$$

(d)  $763 - 49 = \underline{714}$  (e)  $581 - 58 = \underline{523}$

$$\begin{array}{r} 763 \\ - 49 \\ \hline 714 \end{array}$$

$$\begin{array}{r} 581 \\ - 58 \\ \hline 523 \end{array}$$

2. (a)  $652 - 9 = \underline{643}$  (b)  $375 - 8 = \underline{367}$

$$\begin{array}{r} 4 \text{ 12} \\ 6 \cancel{5} \cancel{2} \\ - \quad \quad 9 \\ \hline 6 \ 4 \ 3 \end{array}$$

$$\begin{array}{r} 6 \text{ 15} \\ 3 \cancel{7} \cancel{5} \\ - \quad \quad 8 \\ \hline 3 \ 6 \ 7 \end{array}$$

(c)  $881 - 567 = \underline{314}$  (d)  $646 - 209 = \underline{437}$

$$\begin{array}{r} 7 \text{ 11} \\ 8 \cancel{8} \cancel{1} \\ - 5 \ 6 \ 7 \\ \hline 3 \ 1 \ 4 \end{array}$$

$$\begin{array}{r} 3 \text{ 16} \\ 6 \cancel{4} \cancel{6} \\ - 2 \ 0 \ 9 \\ \hline 4 \ 3 \ 7 \end{array}$$

(c)  $460 - 7 = \underline{453}$  (d)  $843 - 5 = \underline{838}$

$$\begin{array}{r} 5 \text{ 10} \\ 4 \cancel{6} \cancel{0} \\ - \quad \quad 7 \\ \hline 4 \ 5 \ 3 \end{array}$$

$$\begin{array}{r} 3 \text{ 13} \\ 8 \cancel{4} \cancel{3} \\ - \quad \quad 5 \\ \hline 8 \ 3 \ 8 \end{array}$$

(e)  $354 - 36 = \underline{318}$  (f)  $690 - 55 = \underline{635}$

$$\begin{array}{r} 4 \text{ 14} \\ 3 \cancel{5} \cancel{4} \\ - \quad 3 \ 6 \\ \hline 3 \ 1 \ 8 \end{array}$$

$$\begin{array}{r} 8 \text{ 10} \\ 6 \cancel{9} \cancel{0} \\ - \quad 5 \ 5 \\ \hline 6 \ 3 \ 5 \end{array}$$

(g)  $872 - 23 = \underline{849}$  (h)  $281 - 67 = \underline{214}$

$$\begin{array}{r} 6 \text{ 12} \\ 8 \cancel{7} \cancel{2} \\ - \quad 2 \ 3 \\ \hline 8 \ 4 \ 9 \end{array}$$

$$\begin{array}{r} 7 \text{ 11} \\ 2 \cancel{8} \cancel{1} \\ - \quad 6 \ 7 \\ \hline 2 \ 1 \ 4 \end{array}$$

### Exercise 3D Subtract With Renaming (3)

1. (a) 
$$\begin{array}{r} 7 \text{ 14} \\ 3 \cancel{8} \cancel{4} \\ - 1 \ 3 \ 6 \\ \hline 2 \ 4 \ 8 \end{array}$$

$384 - 136 = \underline{248}$

(b)  $892 - 575 = \underline{317}$  (c)  $541 - 219 = \underline{322}$

$$\begin{array}{r} 8 \text{ 12} \\ 8 \cancel{9} \cancel{2} \\ - 5 \ 7 \ 5 \\ \hline 3 \ 1 \ 7 \end{array}$$

$$\begin{array}{r} 3 \text{ 11} \\ 5 \cancel{4} \cancel{1} \\ - 2 \ 1 \ 9 \\ \hline 3 \ 2 \ 2 \end{array}$$

(d)  $972 - 538 = \underline{434}$  (e)  $750 - 423 = \underline{327}$

$$\begin{array}{r} 6 \text{ 12} \\ 9 \cancel{7} \cancel{2} \\ - 5 \ 3 \ 8 \\ \hline 4 \ 3 \ 4 \end{array}$$

$$\begin{array}{r} 4 \text{ 10} \\ 7 \cancel{5} \cancel{0} \\ - 4 \ 2 \ 3 \\ \hline 3 \ 2 \ 7 \end{array}$$

2. (a)  $753 - 328 = \underline{425}$  (b)  $965 - 417 = \underline{548}$

$$\begin{array}{r} 4 \text{ 13} \\ 7 \cancel{5} \cancel{3} \\ - 3 \ 2 \ 8 \\ \hline 4 \ 2 \ 5 \end{array}$$

$$\begin{array}{r} 5 \text{ 15} \\ 9 \cancel{6} \cancel{5} \\ - 4 \ 1 \ 7 \\ \hline 5 \ 4 \ 8 \end{array}$$

3. No.  
Bruno cannot subtract 2 ones from 5 ones.  
He should rename 9 tens 2 ones as 8 tens 12 ones to subtract.

$$\begin{array}{r} 8 \text{ 12} \\ 5 \cancel{9} \cancel{2} \\ - 3 \ 4 \ 5 \\ \hline 2 \ 4 \ 7 \end{array}$$

$592 - 345 = 247$

### Exercise 3D Subtract With Renaming (4)

1. (a) 
$$\begin{array}{r} 1 \text{ 13} \\ \cancel{2} \cancel{3} \ 5 \\ - \quad 7 \ 4 \\ \hline 1 \ 6 \ 1 \end{array}$$

$235 - 74 = \underline{161}$

(b)  $629 - 58 = \underline{571}$  (c)  $505 - 42 = \underline{463}$

$$\begin{array}{r} 5 \text{ 12} \\ \cancel{6} \cancel{2} \ 9 \\ - \quad 5 \ 8 \\ \hline 5 \ 7 \ 1 \end{array}$$

$$\begin{array}{r} 4 \text{ 10} \\ \cancel{5} \cancel{0} \ 5 \\ - \quad 4 \ 2 \\ \hline 4 \ 6 \ 3 \end{array}$$

2. (a)  $416 - 32 = \underline{384}$  (b)  $804 - 63 = \underline{741}$

$$\begin{array}{r} 3 \text{ 11} \\ \cancel{4} \cancel{1} \ 6 \\ - \quad 3 \ 2 \\ \hline 3 \ 8 \ 4 \end{array}$$

$$\begin{array}{r} 7 \text{ 10} \\ \cancel{8} \cancel{0} \ 4 \\ - \quad 6 \ 3 \\ \hline 7 \ 4 \ 1 \end{array}$$

(c)  $757 - 81 = \underline{676}$  (d)  $548 - 95 = \underline{453}$

$$\begin{array}{r} 6 \text{ 15} \\ \cancel{7} \cancel{5} \ 7 \\ - \quad 8 \ 1 \\ \hline 6 \ 7 \ 6 \end{array}$$

$$\begin{array}{r} 4 \text{ 14} \\ \cancel{5} \cancel{4} \ 8 \\ - \quad 9 \ 5 \\ \hline 4 \ 5 \ 3 \end{array}$$

(e)  $362 - 70 = \underline{292}$  (f)  $539 - 84 = \underline{455}$

$$\begin{array}{r} 2 \text{ 16} \\ \cancel{3} \cancel{6} \ 2 \\ - \quad 7 \ 0 \\ \hline 2 \ 9 \ 2 \end{array}$$

$$\begin{array}{r} 4 \text{ 13} \\ \cancel{5} \cancel{3} \ 9 \\ - \quad 8 \ 4 \\ \hline 4 \ 5 \ 5 \end{array}$$



$$\begin{array}{r} 6 \text{ } 10 \\ \cancel{7} \cancel{0} 8 \\ - \boxed{9} 3 \\ \hline 6 \text{ } 1 \text{ } 5 \end{array}$$

$$10 - \underline{9} = 1$$

The missing digit is 9.

### Exercise 3D Subtract With Renaming (5)

$$\begin{array}{r} 2 \text{ } 14 \\ \cancel{3} \cancel{4} 7 \\ - 1 \text{ } 5 \text{ } 2 \\ \hline 1 \text{ } 9 \text{ } 5 \end{array}$$

$$347 - 152 = \underline{195}$$

$$(b) \quad 538 - 290 = \underline{248} \quad (c) \quad 404 - 354 = \underline{50}$$

$$\begin{array}{r} 4 \text{ } 13 \\ \cancel{5} \cancel{3} 8 \\ - 2 \text{ } 9 \text{ } 0 \\ \hline 2 \text{ } 4 \text{ } 8 \end{array}$$

$$\begin{array}{r} 3 \text{ } 10 \\ \cancel{4} \cancel{0} 4 \\ - 3 \text{ } 5 \text{ } 4 \\ \hline 5 \text{ } 0 \end{array}$$

$$2. \quad (a) \quad 933 - 271 = \underline{662} \quad (b) \quad 827 - 483 = \underline{344}$$

$$\begin{array}{r} 8 \text{ } 13 \\ \cancel{9} \cancel{3} 3 \\ - 2 \text{ } 7 \text{ } 1 \\ \hline 6 \text{ } 6 \text{ } 2 \end{array}$$

$$\begin{array}{r} 7 \text{ } 12 \\ \cancel{8} \cancel{2} 7 \\ - 4 \text{ } 8 \text{ } 3 \\ \hline 3 \text{ } 4 \text{ } 4 \end{array}$$

$$(c) \quad 706 - 345 = \underline{361} \quad (d) \quad 654 - 564 = \underline{90}$$

$$\begin{array}{r} 6 \text{ } 10 \\ \cancel{7} \cancel{0} 6 \\ - 3 \text{ } 4 \text{ } 5 \\ \hline 3 \text{ } 6 \text{ } 1 \end{array}$$

$$\begin{array}{r} 5 \text{ } 15 \\ \cancel{6} \cancel{5} 4 \\ - 5 \text{ } 6 \text{ } 4 \\ \hline 9 \text{ } 0 \end{array}$$

3. No.  
8 hundreds 3 tens has been renamed as  
7 hundreds 13 tens.  
Emma should subtract 1 hundred from  
7 hundreds instead.

$$\begin{array}{r} 7 \text{ } 13 \\ \cancel{8} \cancel{3} 6 \\ - 1 \text{ } 5 \text{ } 4 \\ \hline 6 \text{ } 8 \text{ } 2 \end{array}$$

$$836 - 154 = 682$$

### Exercise 3D Subtract with Renaming (6)

$$\begin{array}{r} 2 \text{ } 9 \text{ } 15 \\ \cancel{3} \cancel{0} \cancel{5} \\ - 2 \text{ } 7 \\ \hline 2 \text{ } 7 \text{ } 8 \end{array}$$

$$305 - 27 = \underline{278}$$

$$(b) \quad 660 - 78 = \underline{582} \quad (c) \quad 711 - 212 = \underline{499}$$

$$\begin{array}{r} 5 \text{ } 15 \\ \cancel{6} \cancel{6} \cancel{0} \\ - 7 \text{ } 8 \\ \hline 5 \text{ } 8 \text{ } 2 \end{array}$$

$$\begin{array}{r} 6 \text{ } 10 \text{ } 11 \\ \cancel{7} \cancel{1} \cancel{1} \\ - 2 \text{ } 1 \text{ } 2 \\ \hline 4 \text{ } 9 \text{ } 9 \end{array}$$

$$2. \quad (a) \quad 721 - 45 = \underline{676} \quad (b) \quad 214 - 36 = \underline{178}$$

$$\begin{array}{r} 6 \text{ } 11 \text{ } 11 \\ \cancel{7} \cancel{2} \cancel{1} \\ - 4 \text{ } 5 \\ \hline 6 \text{ } 7 \text{ } 6 \end{array}$$

$$\begin{array}{r} 1 \text{ } 10 \text{ } 14 \\ \cancel{2} \cancel{1} \cancel{4} \\ - 3 \text{ } 6 \\ \hline 1 \text{ } 7 \text{ } 8 \end{array}$$

$$(c) \quad 537 - 88 = \underline{449} \quad (d) \quad 900 - 23 = \underline{877}$$

$$\begin{array}{r} 4 \text{ } 12 \text{ } 17 \\ \cancel{5} \cancel{3} \cancel{7} \\ - 8 \text{ } 8 \\ \hline 4 \text{ } 4 \text{ } 9 \end{array}$$

$$\begin{array}{r} 9 \text{ } 9 \text{ } 10 \\ \cancel{9} \cancel{0} \cancel{0} \\ - 2 \text{ } 3 \\ \hline 8 \text{ } 7 \text{ } 7 \end{array}$$

$$(e) \quad 608 - 249 = \underline{359} \quad (f) \quad 420 - 137 = \underline{283}$$

$$\begin{array}{r} 5 \text{ } 9 \text{ } 18 \\ \cancel{6} \cancel{0} \cancel{8} \\ - 2 \text{ } 4 \text{ } 9 \\ \hline 3 \text{ } 5 \text{ } 9 \end{array}$$

$$\begin{array}{r} 3 \text{ } 11 \text{ } 10 \\ \cancel{4} \cancel{2} \cancel{0} \\ - 1 \text{ } 3 \text{ } 7 \\ \hline 2 \text{ } 8 \text{ } 3 \end{array}$$

$$(g) \quad 723 - 456 = \underline{267} \quad (h) \quad 800 - 692 = \underline{108}$$

$$\begin{array}{r} 6 \text{ } 11 \text{ } 13 \\ \cancel{7} \cancel{2} \cancel{3} \\ - 4 \text{ } 5 \text{ } 6 \\ \hline 2 \text{ } 6 \text{ } 7 \end{array}$$

$$\begin{array}{r} 7 \text{ } 9 \text{ } 10 \\ \cancel{8} \cancel{0} \cancel{0} \\ - 6 \text{ } 9 \text{ } 2 \\ \hline 1 \text{ } 0 \text{ } 8 \end{array}$$

### Exercise 3E Relate Addition and Subtraction

$$\begin{aligned} 1. \quad (a) \quad & 238 + 324 = 562 \\ & 324 + 238 = 562 \\ & 562 - 238 = 324 \\ & 562 - 324 = 238 \end{aligned}$$

$$\begin{aligned} (b) \quad & 617 - 186 = 431 \\ & 617 - 431 = 186 \\ & 186 + 431 = 617 \\ & 431 + 186 = 617 \end{aligned}$$

(c)  $925 - 301 = 624$   
 $301 + 624 = 925$   
 $624 + 301 = 925$   
 $925 - 624 = 301$

2. (a)  $361 - 254 = 107$   
 $254 + \underline{107} = 361$

(b)  $178 + 512 = 690$  or  $512 + 178 = 690$   
 $\underline{690} - 178 = 512$

(c)  $735 - 93 = 642$   
 $\underline{642} + 93 = 735$

(d)  $910 - 259 = 651$   
 $910 - \underline{651} = 259$

### Chapter Practice

1. C      2. B      3. C      4. D

5. (a) 8      (b) 2      (c) 6      (d) 7

6. (a)  $54 - 23 = \underline{31}$       (b)  $71 - 36 = \underline{35}$

$$\begin{array}{r} 54 \\ - 23 \\ \hline 31 \end{array}$$

$$\begin{array}{r} 71 \\ - 36 \\ \hline 35 \end{array}$$

(c)  $698 - 47 = \underline{651}$       (d)  $205 - 82 = \underline{123}$

$$\begin{array}{r} 698 \\ - 47 \\ \hline 651 \end{array}$$

$$\begin{array}{r} 205 \\ - 82 \\ \hline 123 \end{array}$$

(e)  $576 - 190 = \underline{386}$       (f)  $964 - 589 = \underline{375}$

$$\begin{array}{r} 576 \\ - 190 \\ \hline 386 \end{array}$$

$$\begin{array}{r} 964 \\ - 589 \\ \hline 375 \end{array}$$

7. (a)  $745 - 216 = 529$   
 So,  $\underline{529} + 216 = 745$ .  
 The missing number is 529.

(b)  $803 - 169 = 634$   
 So,  $803 - \underline{634} = 169$ .  
 The missing number is 634.

8. (a) =      (b) <      (c) >      (d) =

9. (a)  $372 + 67 = 439$       (b)  $725 - 139 = 586$

$$\begin{array}{r} 372 \\ + 67 \\ \hline 439 \end{array}$$

$$\begin{array}{r} 725 \\ - 139 \\ \hline 586 \end{array}$$

The missing digit is 4.      The missing digit is 8.

## Chapter 4 ADDITION AND SUBTRACTION USING BAR MODELS

### Exercise 4A Sum and Difference

1. (a) 12; 12      (b) 19; 19

2. (a)  $8 + 6 = 14$       (b)  $16 + 15 = \underline{31}$   
 The sum is 14.      The sum is 31.

(c)  $79 + 15 = 94$       (d)  $401 + 564 = 965$   
 The sum is 94.      The sum is 965.

(e)  $857 + 61 = \underline{918}$       (f)  $386 + 244 = \underline{630}$   
 The sum is 918.      The sum is 630.

3. (a)  $15 - 8 = \underline{7}$   
 The difference is 7.

(b)  $17 - 11 = \underline{6}$   
 The difference is 6.

4. (a)  $13 - 8 = 5$   
 The difference is 5.

(b)  $26 - 17 = 9$   
 The difference is 9.

(c)  $87 - 46 = 41$   
 The difference is 41.

(d)  $657 - 431 = 226$   
 The difference is 226.

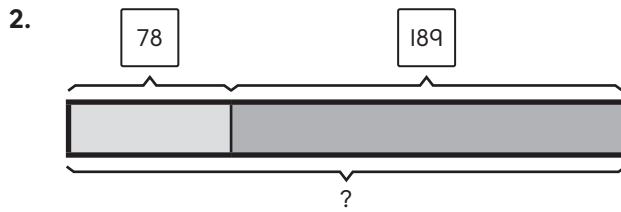
(e)  $525 - 142 = 383$   
 The difference is 383.

(f)  $200 - 69 = 131$   
 The difference is 131.

### Exercise 4B Part-Whole Model (1)

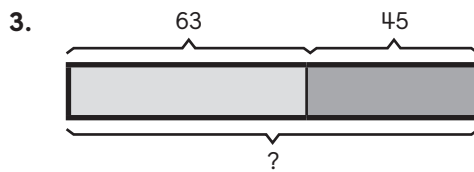
1.  $\frac{124}{\quad} \oplus \frac{96}{\quad} = \frac{220}{\quad}$

Ms. Wyatt makes 220 pies in all.



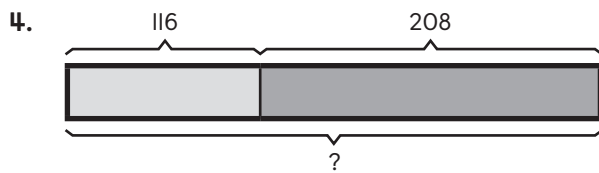
$\frac{78}{\quad} \oplus \frac{189}{\quad} = \frac{267}{\quad}$

The shopkeeper had 267 shirts at first.



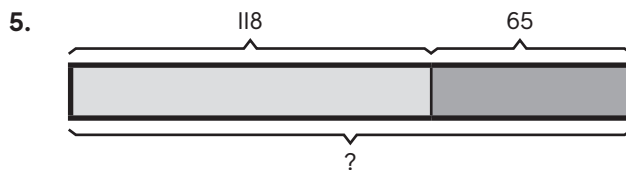
$63 + 45 = 108$

Grace has 108 beads now.



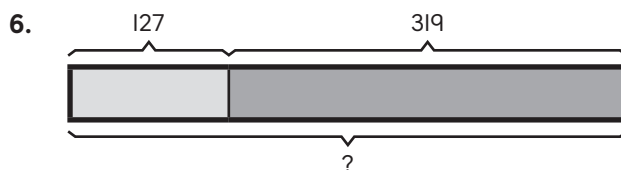
$116 + 208 = 324$

Owen read 324 pages in all.



$118 + 65 = 183$

There were 183 passengers on the airplane in the end.



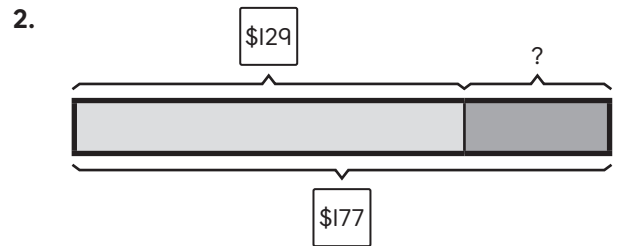
$127 + 319 = 446$

Caleb had 446 craft sticks at first.

### Exercise 4B Part-Whole Model (2)

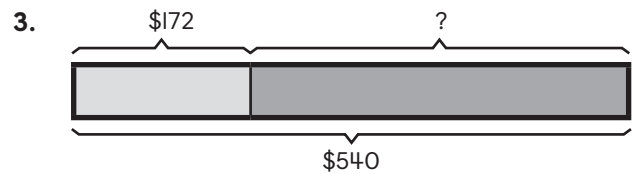
1.  $\frac{80}{\quad} \ominus \frac{57}{\quad} = \frac{23}{\quad}$

Yani had 23 stamps left.



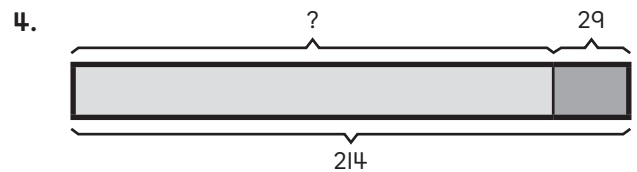
$\frac{177}{\quad} \ominus \frac{129}{\quad} = \frac{48}{\quad}$

Dylan saves \$ 48 this month.



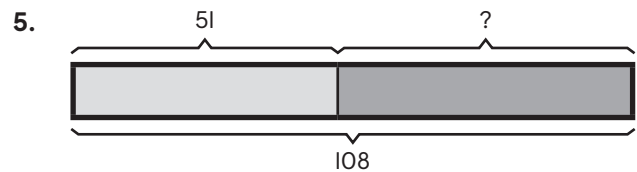
$540 - 172 = 368$

The camera cost \$ 368.



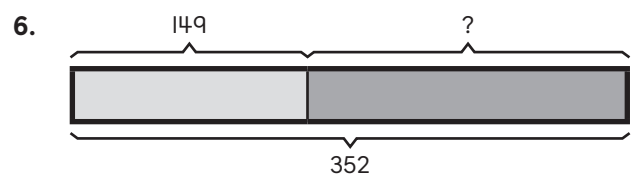
$214 - 29 = 185$

The grocer had 185 oranges left.



$108 - 51 = 57$

57 people left the beach.



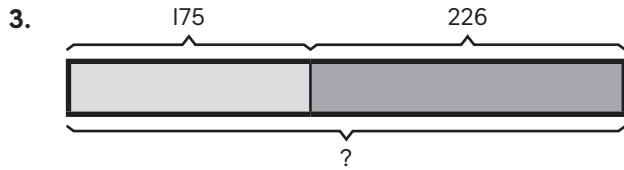
$352 - 149 = 203$

The bakery received 203 orders this month.

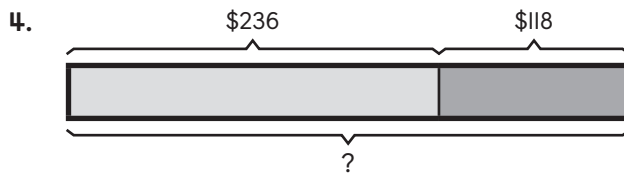
### Exercise 4B Part-Whole Model (3)

1.  $\frac{67}{\quad} \oplus \frac{532}{\quad} = \frac{599}{\quad}$   
 Mike buys 599 apples in all.

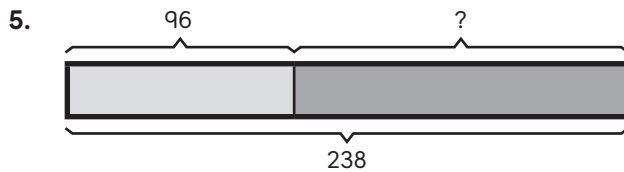
2.  $\frac{239}{\quad} \ominus \frac{116}{\quad} = \frac{123}{\quad}$   
 Jen has 123 baseball cards.



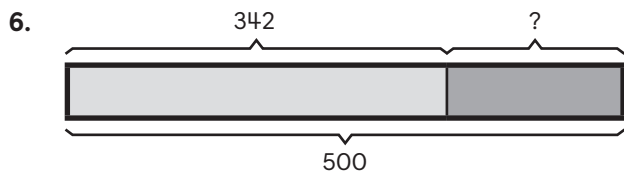
$175 + 226 = 401$   
 There are 401 people at the charity event.



$236 + 118 = 354$   
 Jane saves \$ 354 in all.



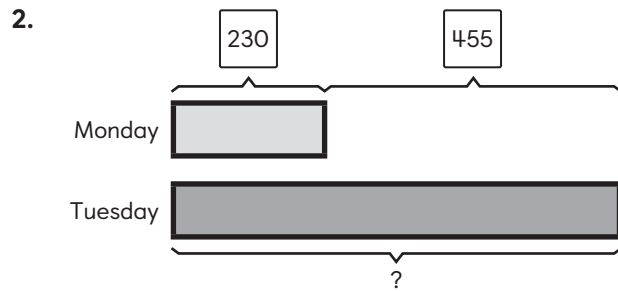
$238 - 96 = 142$   
 There are 142 fiction books.



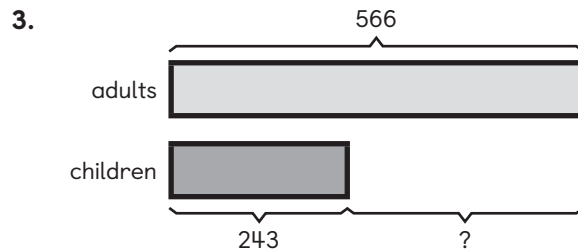
$500 - 342 = 158$   
 Ian needs to type 158 more words.

### Exercise 4C Comparison Model

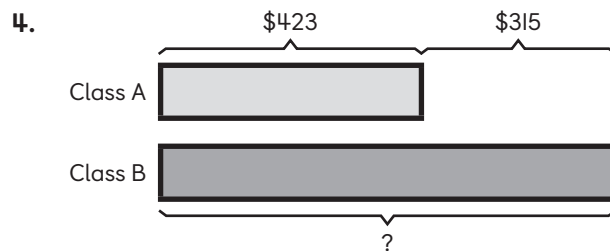
1.  $\frac{45}{\quad} \ominus \frac{32}{\quad} = \frac{13}{\quad}$   
 There are 13 more peaches than mangoes.



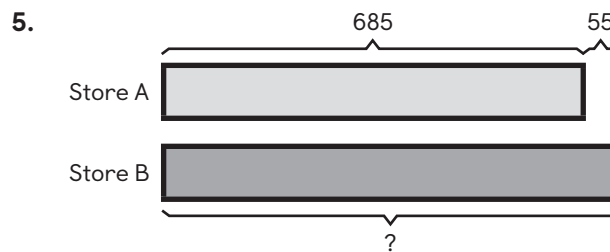
$\frac{230}{\quad} \oplus \frac{455}{\quad} = \frac{685}{\quad}$   
 Mr. Ramsey baked 685 muffins on Tuesday.



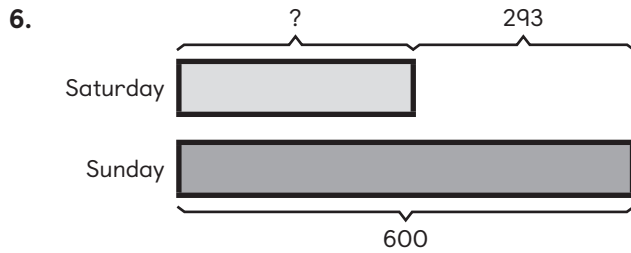
$566 - 243 = 323$   
 There are 323 more adults than children.



$423 + 315 = 738$   
 Class B raised \$ 738.



$685 + 55 = 740$   
 Store B sold 740 toy soldiers.



$$600 - 293 = 307$$

Mr. Ray sold 307 flowers on Saturday.

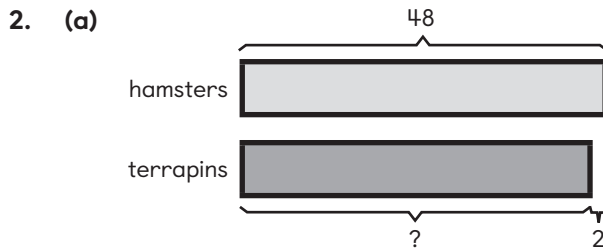
### Exercise 4D Word Problems (I)

1. (a)  $\frac{68}{\text{ }} \text{ ( + ) } \frac{129}{\text{ }} = \frac{197}{\text{ }}$

Brenna has 197 postcards in all.

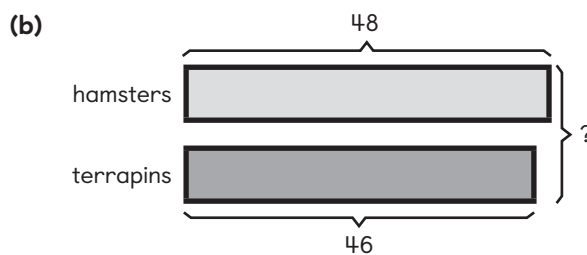
(b)  $\frac{129}{\text{ }} \text{ ( - ) } \frac{68}{\text{ }} = \frac{61}{\text{ }}$

Brenna has 61 more local postcards than overseas postcards.



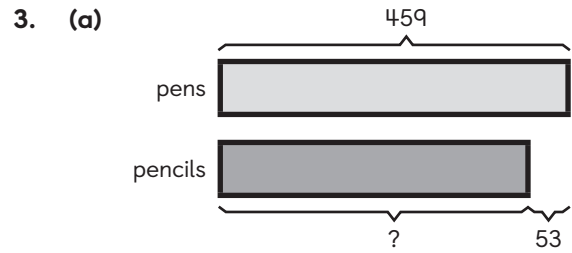
$$48 - 2 = 46$$

There are 46 terrapsins.



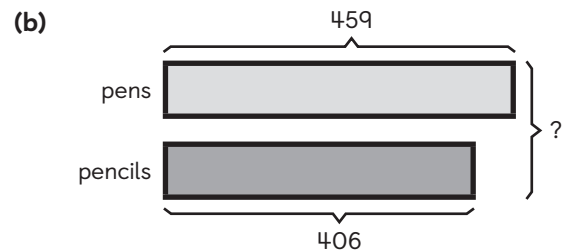
$$48 + 46 = 94$$

There are 94 hamsters and terrapsins in all.



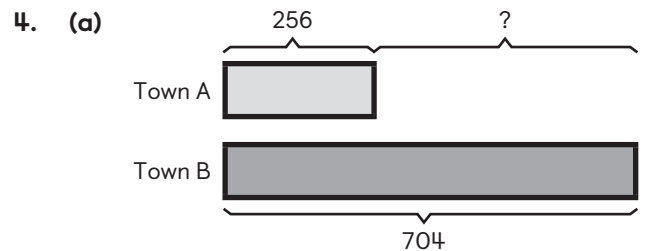
$$459 - 53 = 406$$

The shopkeeper sold 406 pencils.



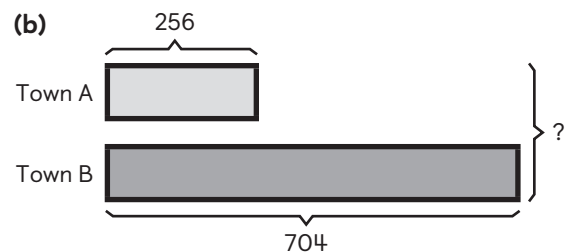
$$459 + 406 = 865$$

The shopkeeper sold 865 pens and pencils in all.



$$704 - 256 = 448$$

There are 448 more trees in Town B than in Town A.



$$256 + 704 = 960$$

There are 960 trees in the two towns.

### Exercise 4D Word Problems (2)

1.  $147 + 58 = 205$

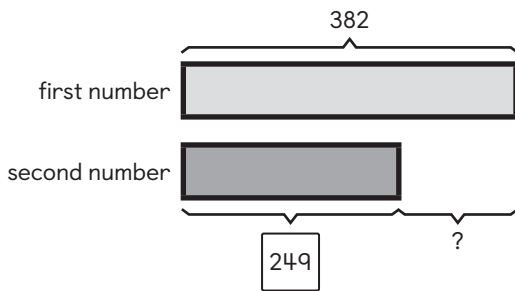
Ms. Lopez made 205 blueberry pancakes.

$147 + 205 = 352$

Ms. Lopez made 352 pancakes in all.

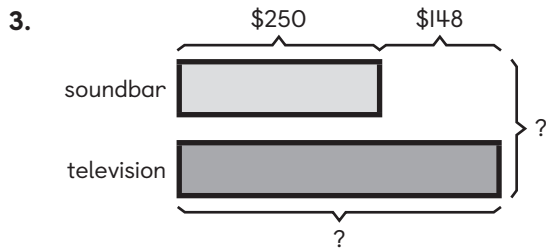
2.  $631 - 382 = 249$

The other number is 249.



$382 - 249 = 133$

The difference between the two numbers is 133.

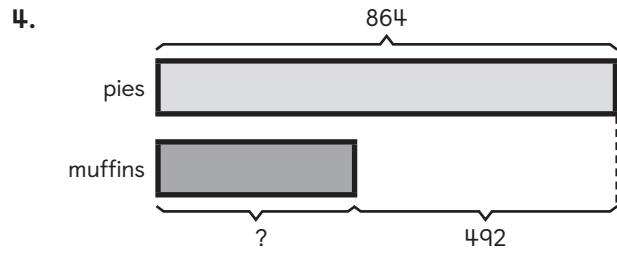


$250 + 148 = 398$

The television costs \$398.

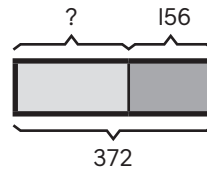
$250 + 398 = 648$

The soundbar and television cost \$648 in all.



$864 - 492 = 372$

The bakery bakes 372 muffins.

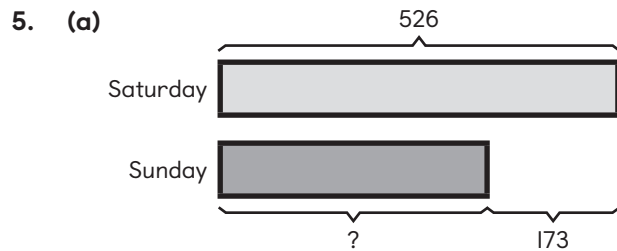


$372 - 156 = 216$

The bakery bakes 216 banana muffins.

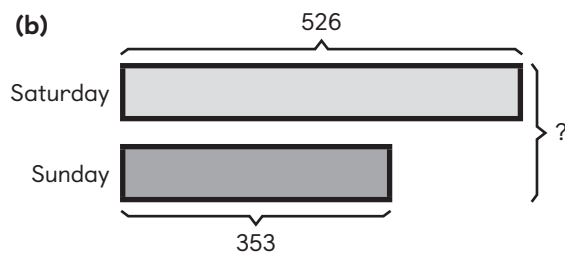
### Chapter Practice

1. B    2. A    3. B    4. D



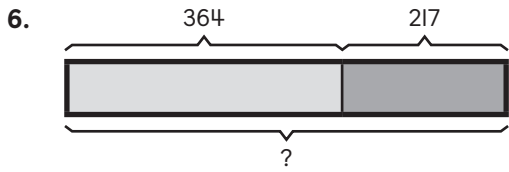
$526 - 173 = 353$

Zoey baked 353 cookies on Sunday.



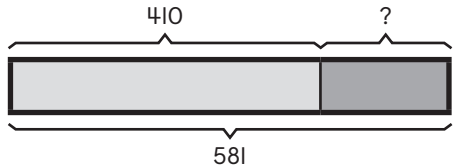
$526 + 353 = 879$

Zoey baked 879 cookies on the two days.



$$364 + 217 = 581$$

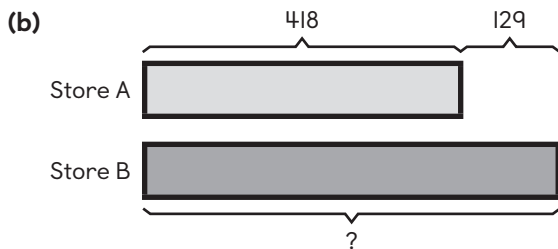
Mr. Jones had 581 chocolate pies and strawberry pies.



$$581 - 410 = 171$$

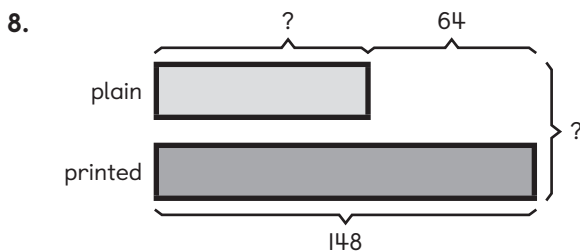
Mr. Jones had 171 pies left.

7. (a) No. The student's bar model is not correct. "Fewer" does not always mean to subtract. Store A has fewer packs of cereal than Store B, so the bar for Store A should be shorter than the bar for Store B.



$$418 + 129 = 547$$

Store B has 547 packs of cereal.

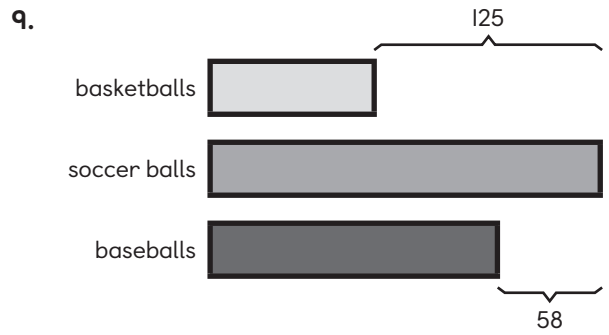


$$148 - 64 = 84$$

Ms. Harris has 84 plain scarves.

$$148 + 84 = 232$$

Ms. Harris has 232 scarves in all.



There are 125 more soccer balls than basketballs.

There are 58 more soccer balls than baseballs.

So, there are more baseballs than basketballs.

$$125 - 58 = 67$$

There are 67 more baseballs than basketballs.