

# Number Sense: Addition and Subtraction – AP Book 6.1: Unit 2

## AP Book NS6-1

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- millions
  - hundred thousands
  - ones
  - ten thousands
  - hundred thousands
  - hundreds
  - ten thousands
- Teacher to check underlining.
  - millions
  - ones
  - hundreds
  - hundreds
  - ten thousands
  - tens
  - ten thousands
  - hundred thousands
  - millions
  - ones
  - thousands

3.

	M	H	T	Th	H	T	O
a)	2	3	1	6	9	5	3
b)			6	2	5	0	7
c)	5	6	0	4	8	9	1
d)				1	3	9	9
e)						1	7
f)		9	9	8	2	6	0
g)	5	0	0	2	0	0	8

- 600 000
  - 50 000
  - 4000
  - 800
  - 70
  - 2
  - 100 000
  - 20 000
  - 8000
  - 500
  - 30
  - 7
- 700
  - 700
  - 700 000
  - 7000

- 7
  - 70
  - 7
- 500
    - 30 000
    - 80
    - 2

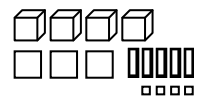
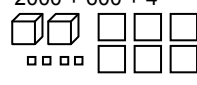
### BONUS

- 2 000 000, 20
- thousands
  - millions
  - thousands
  - millions
  - thousands
- thirty-six thousand
  - seventy-nine million
  - seven hundred seventy thousand
  - three hundred six thousand
- 73 057 104
  - 907 403 021
- two hundred seventy-five million, three hundred eighty-one thousand, two hundred ten
  - eighty-nine million, twenty-three thousand, one hundred
  - nine hundred ninety-eight million, three hundred twenty-five thousand, five hundred ninety-three
- two hundred forty-eight million, 248 000 000  
one hundred ninety-nine million, 199 000 000  
one hundred forty-five million, 145 000 000  
sixty-five million, 65 000 000

- Mercury: fifty-seven million, six hundred thousand
  - Venus: one hundred seven million, five hundred twenty thousand
  - Earth: one hundred forty-eight million, six hundred forty thousand
- three hundred eighty-four thousand, four hundred
  - four billion, four hundred sixty-eight million, six hundred forty thousand
- two hundred twenty-five million  
three hundred thirty-five thousand  
twelve million, eight hundred thousand



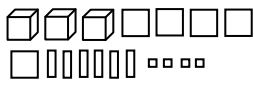
## AP Book NS6-2

page 24

- $4000 + 300 + 50 + 4$   

  - $2000 + 600 + 4$   

- 6 millions + 2 hundred thousands + 3 ten thousands + 5 thousands + 4 hundreds + 1 one
  - 3 millions + 5 ten thousands + 6 thousands + 2 tens + 6 ones
- 30 + 6
  - $10\ 000 + 2000 + 50 + 2$
  - $500 + 20 + 6$
  - $50\ 000 + 6000 + 300 + 80 + 4$
  - $2000 + 400 + 90 + 3$

- $3\ 000\ 000 + 80\ 000 + 2000 + 300 + 80 + 5$
  - $9\ 000\ 000 + 300\ 000 + 40\ 000 + 40 + 2$
- 6745
    - 868
    - 3032
    - 56 493
    - 32 500
    - 93 608
    - 70 707
    - 16 234
    - 4 327 852
    - 2 302 032

### BONUS

- 3 390 200
- 40
  - 80
  - 700
  - 200
  - 2
  - 9000
  - 80
  - 7 000, 5
  - 700, 2
  - 7 000 000, 40
  - 400 000, 8000, 3
- 1000
- 14
- seven: 93, 84, 75, 66, 57, 48, 39
  - nine: 91, 82, 73, 64, 55, 46, 37, 28, 19
  - eight: 80, 71, 62, 53, 44, 35, 26, 17
- Answers will vary. Teacher to check.  
Sample answers:
  - 
  - 
- 

three thousand, five hundred sixty-four  
 $3000 + 500 + 60 + 4$   
 3 thousands + 5 hundreds + 6 tens + 4 ones

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(continued)

## AP Book NS6-3

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1. b)  $700 + 20 + 3$   
 $600 + 20 + 3$   
723, 623
- c)  $400 + 60 + 3$   
 $400 + 60 + 2$   
463, 462
- d)  $300 + 0 + 9$   
 $300 + 1 + 9$   
319, 309
2. b) Circle the thousands digits.  
956 103
- c) Circle the tens digits.  
2 532 119
- d) Circle the tens digits.  
450 186 224
3. b) Circle the thousands digits.  
527 314
- c) Circle the hundred thousands digits.  
424 611
- d) Circle the tens digits.  
16 237
4. b)  $>$
- c)  $<$
- d)  $>$
- e)  $>$
- f)  $<$
- g)  $<$
- h)  $>$
- i)  $>$
- j)  $<$
- k)  $>$
- l)  $<$
5. a) 6432
- b) 9874
- c) 4210
6. a) 84 321
- b) 98 521
- c) 65 431
7. Numbers in between will vary. Teacher to check.
  - a) Greatest: 87521  
Least: 12578

- b) Greatest: 95321  
Least: 12359
- c) Greatest: 53310  
Least: 10335
8. a) 3183, 3257, 3352
- b) 17 251, 17 256,  
17 385
- c) 87 498, 87 499,  
87 500
- d) 3281, 36 725, 93 859
- e) 60 001, 60 021,  
60 052
- f) 17, 273, 5891
- g) 23 809, 423 010,  
45 789 001
- h) 648 973 902,  
902 648 973,  
973 902 648
- i) 329 564, 42 907 812,  
301 298 456,  
789 234 502
- j) 72 572, 572 000,  
572 572, 57 200 572,  
572 000 572
9. Answers will vary.  
Teacher to check.  
Sample answer: 32 410
10. Answers will vary.  
Teacher to check.  
Sample answer: 86 357
11. a) 7
- b) 4
- c) 1
- d) 2

## AP Book NS6-4

page 28

1. a) 4, 7, 3  
2, 9, 1  
6, 16, 4  
7, 6, 4
- b) 3, 4, 1, 8  
2, 9, 4, 5  
5, 13, 5, 13  
6, 3, 6, 3
2. b) 826
- c) 746
- d) 844
3. a) 564
- b) 565

- c) 547
- d) 913
- e) 6196
- f) 6069
- g) 5689
- h) 9095
- i) 6292
- j) 6493
- k) 5737
- l) 9103
4. a) 491
- b) 617
- c) 518
- d) 624
- e) 5388
- f) 3043
- g) 9827
- h) 14 105
- i) 6981
- j) 6377
- k) 91 628
- l) 748 188
5. a) 795
- b) 729
- c) 419
- d) 44 215
- e) 96 848
- f) 1 222 221
6. a) 8110 km
- b) 1 007 509
7. b)
 

	5	15
	<del>8</del>	<del>8</del>
-	2	9

	5	15
	<del>8</del>	<del>8</del>
-	2	9

	5	17
	<del>8</del>	7
-	4	8

	3	14	
	2	<del>4</del>	<del>4</del>
-	1	3	7

8. b)
 

	4	14
	<del>8</del>	<del>4</del>
-	2	6
	2	8
- c)
 

	5	13	
	<del>8</del>	<del>8</del>	8
-	4	5	3
	1	8	5
- d)
 

	7	15	
	<del>8</del>	<del>8</del>	4
-	3	7	2
	4	8	2
- e) 373
- f) 241
- g) 536
- h) 124
- i) 1308
- j) 3555
- k) 1460
- l) 904
9. a) 3971
- b) 3767
- c) 3759
- d) 2768
10. a) 2978
- b) 3514
- c) 4632
- d) 384 807
- e) 216 392
- f) 975 534
11. a) 10 875 KB
- b) 517 870 kg
12. a) 250 km
- b) 14 081 km
13. a) 3247 km
- b) The combined shoreline length of Lakes Huron and Michigan is 1862 km longer than the combined shoreline length of Lakes Superior, Erie, and Michigan.

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(continued)

- c) The total shoreline length of Canada is 186 336 km longer than the total shoreline length of the Great Lakes.
- d) Answers will vary. Teacher to check.

## AP Book NS6-5

page 32

- closer to 10
  - closer to 0
  - closer to 10
- 1, 2, 3, and 4
  - 6, 7, 8, and 9
  - it is equally close to 0 and 10
- 20, 30
  - 60, 70, 80
  - 250, 260, 270
- Circle the following:
  - 30
  - 10
  - 250
  - 490
- closer to 100
  - closer to 0
- 50 is equally close to 0 and 100.
- Circle the following:
  - 100
  - 0
  - 0
  - 100
- Teacher to check number line.
  - 600
  - 700
  - 800
  - 700
- Circle the following:
  - 200
  - 600
  - 900
  - 500
- closer to 0
  - closer to 1000

- Circle the following:
  - 0
  - 1000
  - 1000
- Teacher to check number line.  
4000, 5000
- Circle the following:
  - 3000
  - 7000
  - 6000
  - 8000
- Look at the digit in the hundreds place. If it is 0, 1, 2, 3 or 4, round down. If it is 5, 6, 7, 8, or 9, round up.
- Teacher to check underlining.  
Circle the following:
  - round up
  - round down
  - round down
  - round up
  - round up
  - round up
- round up  
990 000
  - round down  
317 220
  - round up  
2 200 000
  - round up  
3 857 210
  - round up  
6 700 000

## BONUS

- 400 000
- 427 300
- 21 000

## AP Book NS6-6

page 35

- $400 + 500 = 900$
  - $6000 - 2000 = 4000$
  - $700 + 200 = 900$
  - $500 - 200 = 300$
  - $6000 + 7000 = 13\ 000$
  - 400

- 7000
  - 2000
- $2000 - 2000 = 0$
  - $1900 - 1500 = 400$
  - Rounding to the nearest hundred makes more sense because it is more precise.
  - Circle the following:
    - hundreds
    - ten thousands
    - hundred thousands
    - hundred thousands
- $300\ 000 + 700\ 000 = 1\ 000\ 000$
  - $20\ 000 - 16\ 000 = 4000$
  - $80\ 000 - 40\ 000 = 40\ 000$
  - $1\ 200\ 000 + 5\ 300\ 000 = 6\ 500\ 000$
- 70 000, 1 000 000, 90 000
  - 80 000, 900 000, 90 000
  - 90 000, 1 000 000, 100 000
  - 77 690, 955 991, 93 575
  - Teacher to check.
  - Rounding one number up and the other number down produces a better estimate because the estimation errors balance each other.
- 1000, 10 000, 300 000, 30 000
  - 2000, 20 000, 400 000, 50 000
  - 1000, 10 000, 300 000, 40 000
  - 1065, 8112, 309 983, 36 165
  - Teacher to check.

- Rounding both numbers up produces a better estimate because the estimation errors balance each other.
- The supermarket sold 2289 pieces of fruit.  
Estimate:  $500 + 800 + 300 + 700 = 2300$   
Explanations will vary.
- 628 320
  - 628 300
  - 628 000
  - 630 000
  - 600 000

## BONUS

- 1 000 000
- Luc plans to drive 12 424 km.  
Estimate:  $6000 + 6000 = 12\ 000$
- The numbers are rounded to the nearest hundred. Explanations will vary. Teacher to check.
- Rick's answer is not correct.  
Estimate:  $46\ 000 + 23\ 000 = 69\ 000$ .  
The correct answer is 69 231.
- 1 298 833 km<sup>2</sup>
  - 131 660 km<sup>2</sup>
  - Answers will vary. Teacher to check.

## AP Book NS6-7

page 38

- Mackerel: -100  
Dolphin: -50  
Seagull: +50  
Falcon: +100
  - dolphin
  - $-50 < -100$
- Teacher to check.
- Teacher to check.
- Circle the following:
  - +5
  - +7

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(continued)

- c) +8  
d) -4
5. a) Teacher to check.  
b)  $-8 < -4 < -1 < 3 < 7$
6. a)  $<$   
b)  $<$   
c)  $>$   
d)  $>$
7.  $+10 > +5 > -2 > -3 > -7$
8. a) 3  
b) Answers will vary.  
Teacher to check.  
Sample answer:  
 $-6, -7, -8$   
c) 5  
d)  $-3$  and  $+3$
9. a) warmer,  $>$   
b) colder,  $<$   
c) warmer,  $>$
10. a) +450  
b) -225

## BONUS

675

11. Monday
12. a) +52  
b) -200  
c) +5  
d) +300  
e) -5

## AP Book NS6-8

page 41

1. a) -4  
b) +2  
c) -5  
d) +1
2. -429
3. Circle the following:  
a) -3  
b) 3  
c) -2  
d) +2
4. Teacher to check  
number line.  
YUKON
5. a) +2  
b) +5

- c) +12  
d) +573
6. a) i)  $<, >$   
ii)  $>, <$   
iii)  $>, <$   
iv)  $<, >$   
b)  $>$

## BONUS

0 is equal to its opposite  
because the opposite of 0  
is still at 0.

7. b)  $>$   
 $<$   
c)  $>$   
 $<$   
d)  $<$   
 $>$   
e)  $<$   
 $>$   
f)  $>$   
 $<$
8. a)  $>$   
b)  $<$   
c)  $>$
9. No  
 $+27$  is greater than  $-38$   
because positive integers  
are greater than  
negative integers.
10. less than
11. a)  $<$   
b)  $>$   
c)  $>$   
d)  $<$   
e)  $>$   
f)  $<$   
g)  $>$   
h)  $>$   
i)  $<$   
j)  $<$   
k)  $<$   
l)  $<$
12. a) +7654  
b) -7654  
c) -4567  
d) Answers will vary.  
Teacher to check.