

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

## AP Book NS6-1

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1. b) millions  
c) hundred thousands  
d) ones  
e) ten thousands  
f) hundred thousands  
g) hundreds  
h) ten thousands
2. Teacher to check underlining.  
b) millions  
c) ones  
d) hundreds  
e) hundreds  
f) ten thousands  
g) tens  
h) ten thousands  
i) hundred thousands  
j) millions  
k) ones  
l) 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

4. a) 600 000  
50 000  
4000  
800  
70  
2  
b) 100 000  
20 000  
8000  
500  
30  
7
5. b) 700  
c) 700  
d) 700 000  
e) 7000

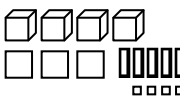

- f) 7  
g) 70  
h) 7
  6. a) 500  
b) 30 000  
c) 80  
d) 2
- BONUS**  
2 000 000, 20

7. b) thousands  
c) millions  
d) thousands  
e) millions  
f) thousands
8. b) thirty-six thousand  
c) seventy-nine million  
d) seven hundred seventy thousand  
e) three hundred six thousand
9. a) 73 057 104  
b) 907 403 021
10. a) two hundred seventy-five million, three hundred eighty-one thousand, two hundred ten  
b) eighty-nine million, twenty-three thousand, one hundred  
c) nine hundred ninety-eight million, three hundred twenty-five thousand, five hundred ninety-three
11. 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

12. a) 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  
b) three hundred eighty-four thousand, four hundred  
c) four billion, four hundred sixty-eight million, six hundred forty thousand
13. two hundred twenty-five million  
three hundred thirty-five thousand  
twelve million, eight hundred thousand

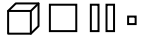

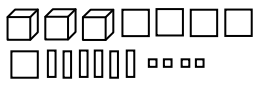
## AP Book NS6-2

page 24

1. a)  $4000 + 300 + 50 + 4$   

- b)  $2000 + 600 + 4$   

2. b) 6 millions  
+ 2 hundred thousands  
+ 3 ten thousands  
+ 5 thousands  
+ 4 hundreds + 1 one  
c) 3 millions  
+ 5 ten thousands  
+ 6 thousands  
+ 2 tens + 6 ones
3. b)  $30 + 6$   
c)  $10\,000 + 2000 + 50 + 2$   
d)  $500 + 20 + 6$   
e)  $50\,000 + 6000 + 300 + 80 + 4$   
f)  $2000 + 400 + 90 + 3$

- g)  $3\,000\,000 + 80\,000 + 2000 + 300 + 80 + 5$   
h)  $9\,000\,000 + 300\,000 + 40\,000 + 40 + 2$
4. a) 6745  
b) 868  
c) 3032  
d) 56 493  
e) 32 500  
f) 93 608  
g) 70 707  
h) 16 234  
i) 4 327 852  
j) 2 302 032

## BONUS

- 2 390 200
5. a) 40  
b) 80  
c) 700  
d) 200  
e) 2  
f) 9000  
g) 80  
h) 7 000, 5  
i) 700, 2  
j) 7 000 000, 40  
k) 400 000, 8000, 3
  6. 1000
  7. 14
  8. a) seven: 93, 84, 75, 66, 57, 48, 39  
b) nine: 91, 82, 73, 64, 55, 46, 37, 28, 19  
c) eight: 80, 71, 62, 53, 44, 35, 26, 17
  9. Answers will vary.  
Teacher to check.  
Sample answers:  
a)   
b) 
  10.   
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)  $300 + 0 + 9$   
 $300 + 10 + 9$   
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: 85 736
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	17
	<del>8</del>	<del>7</del>
-	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>
-	4	5
	1	8

  
d) 

	7	15
	<del>8</del>	<del>8</del>
-	3	7
	4	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  
317 200
  - 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
    - ten thousands
- $300\ 000 + 700\ 000 = 1\ 000\ 000$   
Exact: 948 787
  - $20\ 000 - 16\ 000 = 4000$   
Exact: 4550
  - $80\ 000 - 40\ 000 = 40\ 000$   
Exact: 37 953
  - $1\ 300\ 000 + 5\ 400\ 000 = 6\ 700\ 000$   
Exact: 6 660 655
- 70 000, 1 000 000, 90 000
  - 80 000, 900 000, 90 000
  - 90 000, 1 000 000, 100 000
  - 77 690, 945 991, 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.
  - $1\ 298\ 833\ \text{km}^2$
    - $131\ 660\ \text{km}^2$
    - Answers will vary. Teacher to check.

## AP Book NS6-7

page 38

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

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(continued)

- b) +7  
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.