

# Grade 4 - Adding and Subtracting Multi-Digit Numbers - Answer Key

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Check your work with this answer key. Each solution goes place by place from the ones, shows every carry and regroup, and finishes with a check using the opposite operation. The final answer is in bold.

**Grade 4** · Common Core State Standards: **4.NBT.B.4**

## Exercise 1 - Add four digits

Ones:  $7+1=8$ . Tens:  $2+6=8$ . Hundreds:  $3+5=8$ . Thousands:  $4+2=6$ .

6,888

## Exercise 2 - Subtract four digits

Ones:  $5-2=3$ . Tens:  $4-1=3$ . Hundreds:  $8-5=3$ . Thousands:  $6-3=3$ .

3,333

## Exercise 3 - Add with carrying

$$\begin{array}{r} \textcolor{brown}{1} \text{ } \textcolor{brown}{1} \text{ } \textcolor{brown}{1} \\ 3,478 \\ + 2,965 \\ \hline \textcolor{blue}{6},\textcolor{blue}{4}\textcolor{blue}{4}\textcolor{blue}{3} \end{array}$$

Carry 1 into the tens, hundreds, and thousands.

Ones:  $8+5=13$ , write 3, carry 1. Tens:  $7+6+1=14$ , write 4, carry 1. Hundreds:  $4+9+1=14$ , write 4, carry 1. Thousands:  $3+2+1=6$ .

6,443

#### Exercise 4 - Subtract with regrouping

The ones digit 3 is smaller than 6, and the tens digit is 0, so regroup from the hundreds. 8,203 is 7 thousands, 11 hundreds, 9 tens, and 13 ones.

Ones:  $13 - 6 = 7$ . Tens:  $9 - 1 = 8$ . Hundreds:  $11 - 7 = 4$ . Thousands:  $7 - 4 = 3$ .

3,487

#### Exercise 5 - Add five digits

Ones:  $9 + 8 = 17$ , write 7, carry 1. Tens:  $8 + 3 + 1 = 12$ , write 2, carry 1. Hundreds:  $6 + 4 + 1 = 11$ , write 1, carry 1. Thousands:  $5 + 7 + 1 = 13$ , write 3, carry 1. Ten thousands:  $4 + 2 + 1 = 7$ .

73,127

#### Exercise 6 - Subtract five digits

Ones:  $6 - 4 = 2$ . Tens: 0 is less than 7, so regroup from the hundreds:  $10 - 7 = 3$ . Hundreds: now 1 hundred, less than 5, so regroup from the thousands:  $11 - 5 = 6$ . Thousands: now 0, less than 8, so regroup from the ten thousands:  $10 - 8 = 2$ . Ten thousands:  $6 - 3 = 3$ .

Check:  $32,632 + 38,574 = 71,206$ .

32,632

#### Exercise 7 - Subtract from 6,000

|         | 1,000s | 100s | 10s | 1s |
|---------|--------|------|-----|----|
| Start   | 6      | 0    | 0   | 0  |
| Regroup | 5      | 9    | 9   | 10 |

6,000 becomes 5 thousands, 9 hundreds, 9 tens, and 10 ones.

Ones:  $10 - 7 = 3$ . Tens:  $9 - 8 = 1$ . Hundreds:  $9 - 4 = 5$ . Thousands:  $5 - 2 = 3$ .

Check:  $3,513 + 2,487 = 6,000$ .

3,513

### Exercise 8 - Zeros in the middle

Regroup across the zeros: 50,004 is 4 ten thousands, 9 thousands, 9 hundreds, 9 tens, and 14 ones.

Ones:  $14 - 6 = 8$ . Tens:  $9 - 7 = 2$ . Hundreds:  $9 - 3 = 6$ . Thousands:  $9 - 9 = 0$ . Ten thousands:  $4 - 1 = 3$ .

30,628

### Exercise 9 - Add six digits

Ones:  $1 + 6 = 7$ . Tens:  $8 + 9 = 17$ , write 7, carry 1. Hundreds:  $4 + 3 + 1 = 8$ . Thousands:  $2 + 8 = 10$ , write 0, carry 1. Ten thousands:  $7 + 5 + 1 = 13$ , write 3, carry 1. Hundred thousands:  $3 + 4 + 1 = 8$ .

830,877

### Exercise 10 - Subtract from 800,000

800,000 is 7 hundred thousands, 9 ten thousands, 9 thousands, 9 hundreds, 9 tens, and 10 ones.

Ones:  $10 - 5 = 5$ . Tens:  $9 - 2 = 7$ . Hundreds:  $9 - 9 = 0$ . Thousands:  $9 - 6 = 3$ . Ten thousands:  $9 - 4 = 5$ . Hundred thousands:  $7 - 3 = 4$ .

Check:  $453,075 + 346,925 = 800,000$ .

453,075

### Exercise 11 - Add three numbers

First add two numbers:  $12,345 + 6,789 = 19,134$ .

Then add the third:  $19,134 + 24,680 = 43,814$ .

43,814

## Exercise 12 - Check with addition

|       |       |       |
|-------|-------|-------|
| Total | 9,106 |       |
| Parts | 4,227 | 4,879 |

The parts add back to the total.

Add the answer to the number subtracted:  $4,227 + 4,879$ . Ones:  $7 + 9 = 16$ . Tens:  $2 + 7 + 1 = 10$ . Hundreds:  $2 + 8 + 1 = 11$ . Thousands:  $4 + 4 + 1 = 9$ .

The sum is 9,106, the starting number, so Ethan is correct.

$$4,227 + 4,879 = 9,106; \text{ correct}$$

## Exercise 13 - Missing addend

Subtract:  $9,000 - 5,248$ . Regroup 9,000 as 8 thousands, 9 hundreds, 9 tens, and 10 ones.

Ones:  $10 - 8 = 2$ . Tens:  $9 - 4 = 5$ . Hundreds:  $9 - 2 = 7$ . Thousands:  $8 - 5 = 3$ .

Check:  $5,248 + 3,752 = 9,000$ .

3,752

## Exercise 14 - Find the mistake

In every place he subtracted the smaller digit from the larger digit. In the ones place he did  $7 - 5 = 2$  instead of regrouping to get  $15 - 7 = 8$ .

Correct: 6,205 is 5 thousands, 11 hundreds, 9 tens, and 15 ones. Ones:  $15 - 7 = 8$ . Tens:  $9 - 3 = 6$ . Hundreds:  $11 - 8 = 3$ . Thousands:  $5 - 2 = 3$ .

Check:  $3,368 + 2,837 = 6,205$ .

3,368

## Exercise 15 - Two-day crowd

Ones:  $8 + 2 = 10$ . Tens:  $5 + 7 + 1 = 13$ . Hundreds:  $4 + 6 + 1 = 11$ . Thousands:  $2 + 5 + 1 = 8$ . Ten

thousands:  $1+1=2$ .

28,130 **fans**

### Exercise 16 - Notebook sale

$2,000-1,386$ . Regroup 2,000 as 1 thousand, 9 hundreds, 9 tens, and 10 ones.

Ones:  $10-6=4$ . Tens:  $9-8=1$ . Hundreds:  $9-3=6$ . Thousands:  $1-1=0$ .

Check:  $614+1,386=2,000$ .

**614 notebooks**

### Exercise 17 - Miles left

$2,850-1,967$ . Ones: 0 is less than 7, so regroup a ten. Tens: 4 left, which is less than 6, so regroup a hundred. Hundreds: 7 left, which is less than 9, so regroup a thousand.

Now the digits are 1 thousand, 17 hundreds, 14 tens, and 10 ones.

Ones:  $10-7=3$ . Tens:  $14-6=8$ . Hundreds:  $17-9=8$ . Thousands:  $1-1=0$ .

Check:  $883+1,967=2,850$ .

**883 miles**

### Exercise 18 - Farmers market weeks

First two weeks:  $4,285+3,968=8,253$ .

Add the third week:  $8,253+5,047=13,300$ .

\$13,300.00

### Exercise 19 - Library books

Add:  $36,500+8,275=44,775$ .

Subtract:  $44,775-2,968=41,807$ .

Check:  $41,807 + 2,968 = 44,775$ .

41,807 **books**

### Exercise 20 - Town growth

163,909 rounds to 164,000. 148,326 rounds to 148,000. Estimate:  $164,000 - 148,000 = 16,000$ .

Exact:  $163,909 - 148,326 = 15,583$ .

The exact answer is close to the estimate, so it is reasonable.

15,583 **more people**