

## Grade 4: Subtraction Accuracy

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**4.NBT.B.4** – Fluently add and subtract multi-digit whole numbers using the standard algorithm.

Subtract. Check your answer by adding. Then write your answer in the box.

$$\begin{array}{r} 6547 \\ - 2371 \\ \hline \end{array}$$

### Solution

Correct if student writes 4176 in the box.

$$6,547 - 2,371 = 4,176.$$

In grade 4, students are expected to be fluent with the standard algorithms for finding sums and differences of multi-digit numbers. This is the most reliable way to calculate the difference  $6,547 - 2,371$ . Working from right to left,

- The ones digit will be  $7 - 1 = 6$ .
- The tens digit will be  $14 - 7 = 7$ .
- The hundreds digit will be  $4 - 3 = 1$ .
- The thousands digit will be  $6 - 2 = 4$ .

In this problem, only the answer matters—not how the student calculated it. But if the student takes a long time to carry out the subtraction or the addition, more practice might be helpful.

If the student can subtract  $6,547 - 2,371$  but doesn't know what it means to check this answer by adding, then they might not understand how addition and subtraction are related. For example, if a bank vault has \$6,547 and \$2,371 of this money is stolen, then the remaining money would be \$4,176. If the money were put back ( $\$4,176 + \$2,371$ ), then the total amount of money in the vault would be the original amount, \$6,547.

### Elaboration on Alignment

The basic parameters of the problem are (1) calculating a difference of four-digit whole numbers; (2) checking the answer by addition.

There is no context (this isn't a word problem), as the target of the problem is skill in calculation at the grade 4 level.

The numbers in the problem are intended to lower the difficulty of the calculation to relatively low levels; there is one regrouping step. However, the numbers are chosen to make mental calculation or opportunistic strategies an unattractive option in comparison with applying an efficient algorithm. (This wouldn't be the case if the problem were  $6547 - 2345$ , for example—a problem in which we can “read left to right” pretty easily as “four thousand, two hundred, two.”)

### Learn More

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Name: \_\_\_\_\_

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