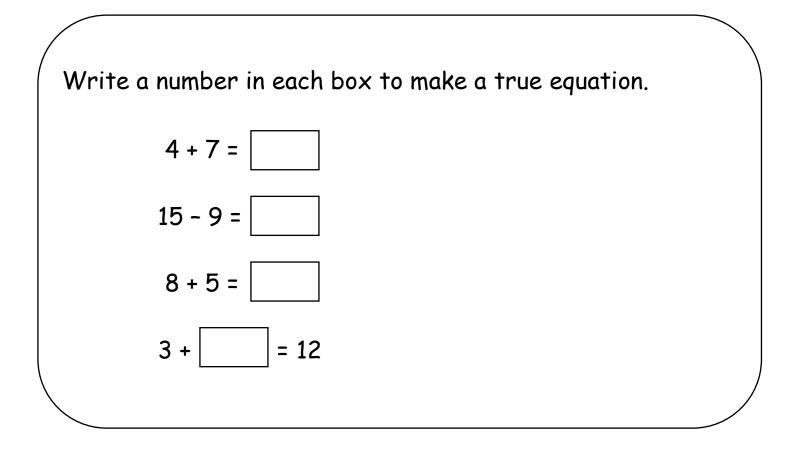
Grade 2: Addition Facts

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2.OA.B.2: Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.



Solution

Correct if student writes 11, 6, 13, and 9 in the boxes.

4 + 7 = **11** 15 - 9 = **6** 8 + 5 = **13** 3 + **9** = **1**2

By the end of second grade, students are expected to know the answers to single-digit sums, without having to think about the answer. For example, students are expected to just know that 4 + 7 equals 11 and 8 + 5 equals 13. In related subtraction problems, like 15 - 9, the answers should come easily.

In fact, at the end of second grade, the best way to answer 15 - 9 is probably just to remember that 9 + 6 = 15. So, 15 - 9 = 6.

A next-best way to answer 15 - 9 might be to think: First, 15 - 5 = 10. Next, subtract 4 more, 10 - 4 = 6. In other words,

15 - 9= 15 - 5 - 4= 10 - 4= 6

This approach uses the knowledge that 9 = 5 + 4 to turn the problem 15 - 9 into a pair of easier problems, 15 - 5 followed by 10 - 4.

It is important that students know their single-digit sums and be fluent with related subtractions, so that they can efficiently add and subtract in cases like 263 + 178 or 544 – 265.

Elaboration on Alignment

There are three distinct kinds of problems here: (a) a sum that "crosses ten" (first and third boxes); (b) a difference that "crosses ten" (second box); and (c) finding a missing addend by subtracting (fourth box). In the first item, the smaller addend comes first; in the third item, the smaller addend comes second.

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