PROBLEM SOLVED
MAKING SENSE OF MATHEMATICS

1. Solve the following problems.

   10 – 5 = __5__   4 – 2 = __2__

   12 – 6 = __6__   14 – 7 = __7__

   16 – 8 = __8__   8 – 4 = __4__

   6 – 3 = __3__   18 – 9 = __9__

2. How are the above problems alike?
   The related addition fact is an addition double. For example, 10 – 5 = 5 and 5 + 5 = 10.

Use an addition double to help you solve each subtraction problem. Write the answer in the first column, the addition double in the second column, and describe your thinking in the third column. The first problem is done for you.

	Subtraction Problem	Addition Fact	Possible Thinking
	9 – 4 = **5**	4 + 4 = 8	4 + 4 = 8 and 9 is one more than 8, so 4 + 5 = 9. If 4 + 5 = 9, then 9 – 4 = 5.
3.	11 – 6 = 5	6 + 6 = 12	6 + 6 = 12 and 11 is one less than 12, so 6 + 5 = 11. If 6 + 5 = 11, then 11- 6 = 5.
4.	13 – 7 = 6	7 +7 = 14	7 + 7 =14 and 14 is one more than 13, so 7 + 6 = 13. If 7 + 6 = 13, then 13 – 7 = 6.
5.	17 – 8 = 9	8 + 8 =16	8 + 8 =16 and 16 is one less than 17, so 8 + 9 = 17. If 8 + 9 = 17, then 17 – 8 = 9.
6.	15 – 7 = 8	7 + 7 = 14	7 + 7 =14 and 14 is one less than 15, so 7 + 8 = 15. If 7 + 8 = 15, then 15 – 7 = 8.

7. There are 15 students in Mr. Jones' class and 8 of them are girls. How many boys are in Mr. Jones' class?
   15 – 8 = ?
   Possible thinking: 8 + 8 = 16 and 15 is one less than 16, so 8 + 7 = 15.
   If 8 + 7 =15, then 15 – 8 = 7.

8. Pedro earned $13 per hour mowing lawn and Carlos earned $6 per hour raking leaves. How much more money does Pedro earn each hour.
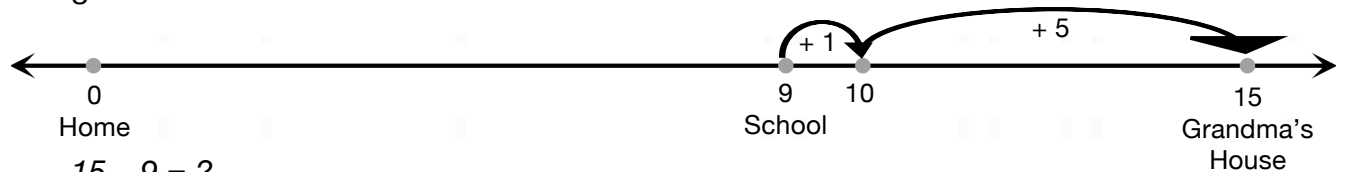   13 – 6 = ?
   Possible thinking: 6 + 6 = 12 and 13 is one more than 12, so 6 + 7 = 13.
   If 6 + 7 =13, then 13 – 6 = 7.

MakingSense

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Show how to use ten and a number line to solve the following problems. The first problem is done for you.
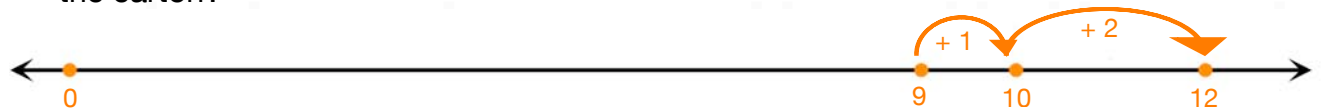
11. Sam and Lilia walked from home to school and then to their grandma's house. They walked a total of 15 blocks. It is 9 blocks from their home to school. How far is their grandma's house from school?

(number line: 0 Home — 9 School, +1, 10, +5, 15 Grandma's House)

$15 - 9 = ?$

Possible thinking: Start with 9, add 1 to get 10. Then add 5 more to get 15. That is a total of 6, so 15 − 9 = 6. Grandma's house is 6 blocks from school.
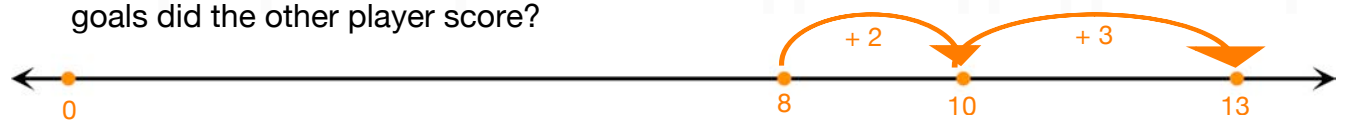
12. Devon took out a full egg carton and used 9 of the 12 eggs. How many eggs are left in the carton?

(number line: 0 — 9, +1, 10, +2, 12)

$12 - 9 = ?$

Possible thinking: Start with 9, add 1 to get 10. Then add 2 more to get 12. That is a total of 3, so 12 − 9 = 3. Three eggs are left in the egg carton.
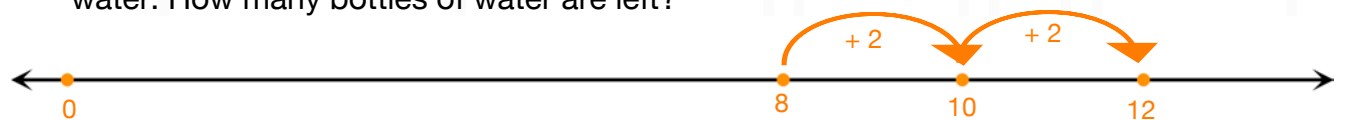
13. Only two players on Connor's soccer team scored goals during the Cedar Valley tournament. There were a total of 13 goals and Connor scored 8 of them. How many goals did the other player score?

(number line: 0 — 8, +2, 10, +3, 13)

$13 - 8 = ?$

Possible thinking: Start with 8, add 2 to get 10. Then add 3 more to get 13. That is a total of 5, so 13 − 8 = 5. The other player scored 5 goals.

14. Kendra packed 12 bottles of water for the picnic. She and her friends drank 8 bottles of water. How many bottles of water are left?

(number line: 0 — 8, +2, 10, +2, 12)

$12 - 8 = ?$

Possible thinking: Start with 8, add 2 to get 10. Then add 2 more to get 12. That is a total of 4, so 12 − 8 = 4. There are 4 bottles of water left.

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