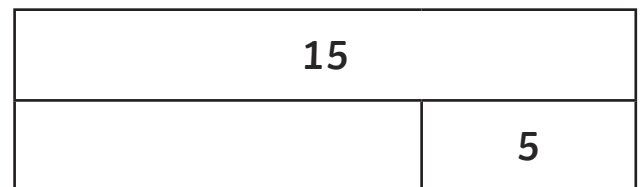
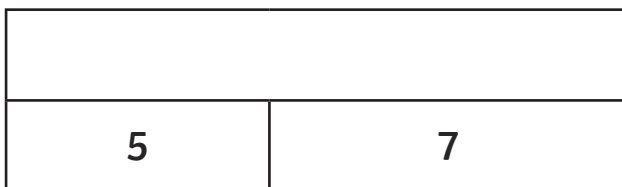
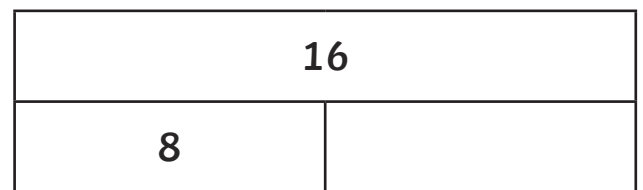
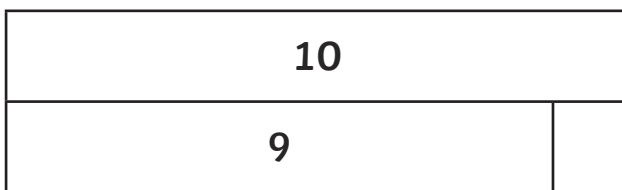
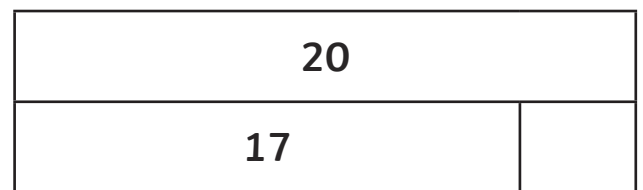
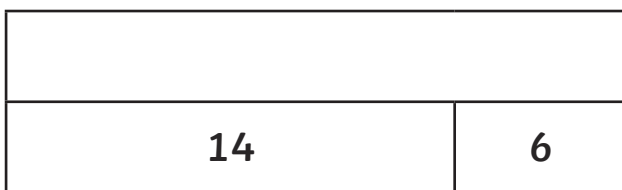


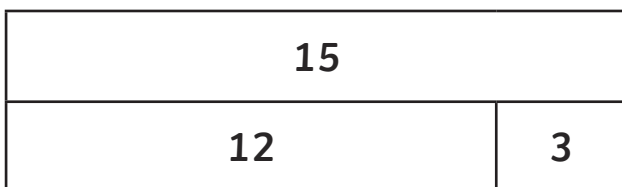
Parents: In year 2, children are developing their understanding of 'commutativity' - that is, the fact that numbers can be added in any order and still give the same answer. So a child developing a deeper understanding will be able to deduce that if $7 + 3 = 10$, then $3 + 7 = 10$ as well. Children also discover that subtraction is not commutative: $10 - 4 = 6$, but $4 - 10$ is not 6! The bar model shown below is a really good way of helping children to understand the relative sizes of numbers and to link three numbers together in different ways, showing that addition and subtraction are closely related. Some schools refer to this as the 'part-part-whole' model, where children learn that the two sides of an addition calculation are the 'parts' and the answer is the 'whole', whereas in a subtraction, the first number is the 'whole' and the other two numbers are the 'parts'.

Bar Models

Fill in the missing numbers in these bar models.



Ben has made four number sentences from this bar model:



$$12 + 3 = 15$$

$$3 + 12 = 15$$

$$15 - 3 = 12$$

$$15 - 12 = 3$$

Choose one of the bar models you completed above and write four number sentences.
