The marathon

Annotation

Michaela solves this change unknown problem by partitioning the difference between 85 and 170. She understands that the sides of an equation are equal and that the order doesn't matter. However, she doesn't recognise that using double 80 would be a more efficient strategy. She uses a number line correctly to explain her thinking.

Problem: The marathon

The teacher shows this problem to the student and reads it with her as required:

There are 170 runners altogether in the marathon. 85 have already run past the half-way mark. How many are still to run past?

Student response

Michaela:	It's 85.
Teacher:	Tell me how you did that.
Michaela:	I said 15 added to 85 is 100 and then there's 70 more to go to get to 170. So I added 15 and 70 and that's 85.
Teacher:	What do you know that helped you?
Michaela:	I know that this is a 'something and what' problem and it doesn't matter if the total is given first.
Teacher:	Tell me why you did it that way.
Michaela:	Because I was adding up to get from 85 to 170 and it's the way we've been learning.
Teacher:	How would you record that?
Michaela:	Well probably a number line. I'm good at these.

She records 85 + 15 + 70 on a number line then puts a circle around 15 and 70 to combine them to make 85.