Pointing to the stars

Annotation

Matiu applies a learned place value strategy, his knowledge of basic multiplication facts, and his ability to partition and combine numbers to successfully solve this ‘start unknown’ multiplication problem. He is able to record and explain his solution.

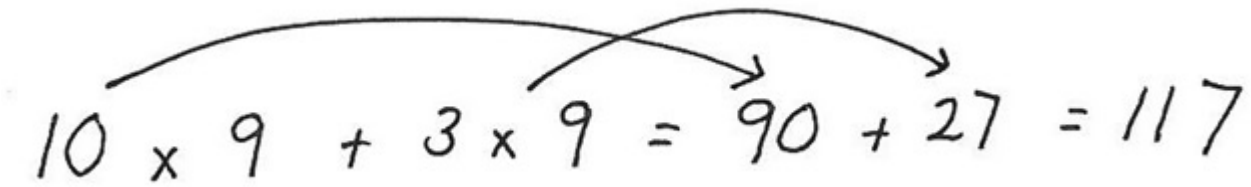
Problem: Pointing to the stars

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

A star has 9 points. If a collection of these stars have 117 points altogether, how many stars are there?

Student response

Matiu:	13 stars.
Teacher:	Tell me how you did that.
Matiu:	I knew ten 9-point stars would have 90 points because 10 x 9. So I could see that there must be more than ten stars. Twenty stars would be double that which is 180, way too much. I was going to guess some more but thought a bit and saw that I needed 27 more points to get from 90 to 117. I just know that 3 x 9 = 27 so I thought that’s it. So the first 10 stars and these three is 10 + 3 stars which make the 117 points. So it’s 13. I can show what I did like this.



Teacher:	What do you know that helped you?
Matiu:	Well I know from stuff we’ve been learning in class that with problems like this it’s good to start with multiples of 10 because you can then add smaller pieces because of the way place value works. Like I did here with the 10 + 3, which is 13.