

# Kapa haka

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## Annotation

Carter can write an equality statement for a situation that involves an unknown, and he is able to explain the conventional algebraic notation he uses. He shows that he understands the formal structure of an equation and that multiplying both sides simplifies the equation.

## Problem: Kapa haka

The teacher shows the student the following problem, reading it to them as required:

Our kapa haka group is made up of some Māori students and 11 Pākehā students. The kapa haka group is divided into four equal groups for practices. Each of the practice groups has 19 students in it.

Then the teacher asks the student:

*Before doing any calculations to find the number of Māori students, can you write an equation that describes the situation, using  $n$  for the number of Māori students?*

## Student Response

$$\frac{n + 11}{4} = 19$$

Teacher: Tell me about what you have written.

I know that some Māori students – which I’m calling  $n$  – and 11 Pākehā students make up the whole kapa haka group. So that’s  $n + 11$ . That whole group is divided into four smaller groups, and an easy way to express that division is to put the total over four.

Carter: What’s on that side of the equation is the same as 19, which is the number in each of the groups. By writing it this way, it’s easy to see the relationship between both sides of the equation and to work out  $n$ . I’d begin by multiplying both sides by four.