The Sausage Sizzle

Annotation

Jan can use a two way table to evaluate claims involving two stage chance situations, that have been made. She can see why a claim might not be valid and can suggest suitable improvements that could be made.

Problem: The Sausage Sizzle

The teacher gives this example and task:

A group of parents are running a fundraising sausage sizzle at a school sports event. To help plan for further sizzles, they record the sales in the table below.

	Plain Sausage	*Sausage with Onion*
Players	*43*	*11*
Spectators	*58*	*86*

The parents made the following claims from these results:

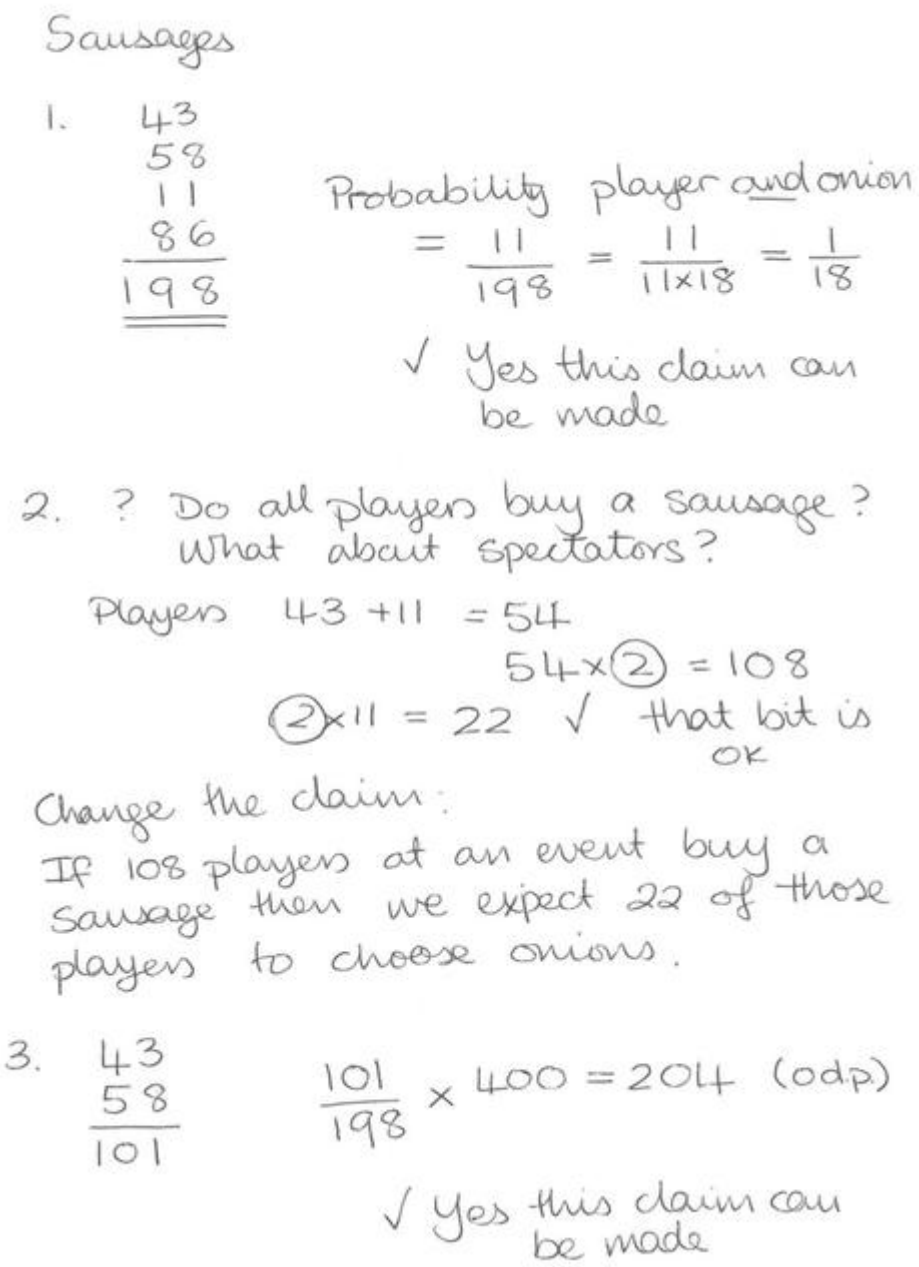
1. *The probability that a customer is a player who wants onions is 1/18.*

2. *For an event that has 108 players, we can expect to sell 22 sausages with onions.*

3. *If 400 sausages are sold in the next event, we can expect to have sold 204 plain (no onions) sausages.*

Evaluate the claims made by the parents.

Student Response



Teacher: What can you tell me about these claims?

Jan: I checked through all the numbers and could see that the parents didn't make any mistakes calculating probabilities.

Teacher: But you were not happy with the second claim.

Jan: No. The wording was a bit rough. Not every player buys a sausage, so it should only be about the players who do. Also, the spectators weren't considered so the claim should be clear that it's not about them.

Teacher: Tell me about your calculations.

Jan: For the first one, the probability would be the 11 from players who had onions out of the total number of sausages sold. So that comes to 198. I got 11/198, but they got 1/18, so I looked at the fraction and saw that it simplified and so their answer was the same as mine.

Then for the next one, I looked at how many players bought sausages, 54. Then because twice that is

108, we are kind of just looking at doubling the sales. After I fixed up the claim of course.

Teacher: And the last claim. Can you explain your working.

Jan: The total number of plain sausages sold was 101 and I already calculated total sausages to be 198 so I just used that number again. Then that fraction gives me the probability of selling a plain sausage. So if I times that by 400 I get the expected number of plain ones that will sell.