

Mona's lemonade

Annotation

Erina can correctly express a ratio and can explain her notation. Her understanding of the proportional relationship between two quantities is evident in her recording and in her explanation.

Problem: Mona's lemonade

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

Mona is making a fruit-drink mix for a party. For every 2 cups of lemonade that she uses, she adds 3 cups of orange juice. Altogether in her mix she uses 15 cups of orange juice. How many cups of lemonade does she use?

Student Response

The student has written the ratio $2:3$ at the top. Below it, the ratio $10:15$ is written, with the number 10 circled. An arrow points from the 2 in the top ratio to the 10 in the bottom ratio, with a "x 5" written next to the arrow. Another arrow points from the 3 in the top ratio to the 15 in the bottom ratio, also with a "x 5" written next to the arrow.

Teacher: Tell me about what you have written.

Erina: Well she'd use 10 cups of lemonade. The juice mix is 2 cups of lemonade to 3 cups of orange juice. I know 2 to 3 is a ratio and that I show that by writing 2:3. I know there are 15 cups of orange juice and that's five times the 3 cups. So I needed to make the lemonade five times the 2 cups to keep the proportions the same, and 5×2 is 10.