Running Laps

Task

Cruz and Erica were both getting ready for soccer.

- Cruz ran 1 lap (1 time) around the school.
- Erica ran 3 laps (3 times) around the playground.

Erica said,

> *I ran more laps, so I ran farther.*

Cruz said,

> *4 laps around the school is 1 mile, but it takes 12 laps around the playground to go 1 mile. My laps are much longer, so I ran farther.*

Who is right? Draw a picture to help you explain your answer.

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Commentary

The purpose of this task is for students to compare two fractions that arise in a context. Because the fractions are equal, students need to be able to explain how they know that. Some students might stop at the second-to-last picture and note that it looks like they ran the same distance, but the explanation is not yet complete at that point. Just because to pictures look the same doesn't mean they are. Think of a picture representing $\frac{49}{100}$ and $\frac{50}{99}$ these will look very similar, but they are not, in fact, equal. To explain why Erica and Cruz ran the same distance, we have to explain why $\frac{1}{4} \quad \frac{3}{12}$.

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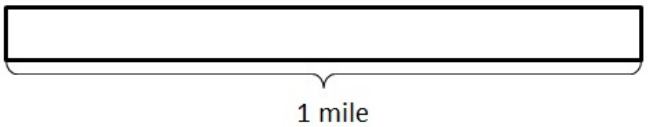
Solution

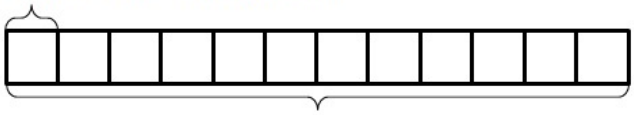


$\frac{1}{4}$

1 lap around the school

$\frac{1}{12}$

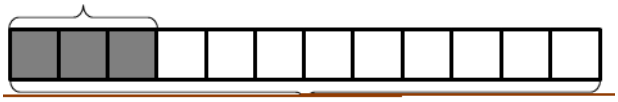
1 lap around the playground



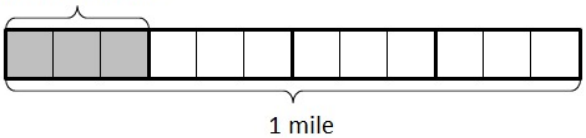
$\frac{3}{12}$

$\frac{1}{4}$

What Erica ran



What Cruz ran



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