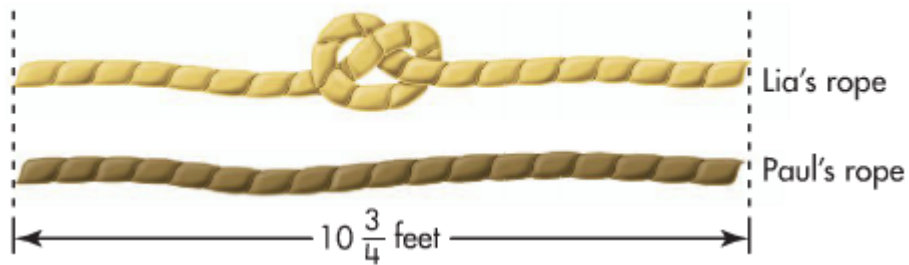


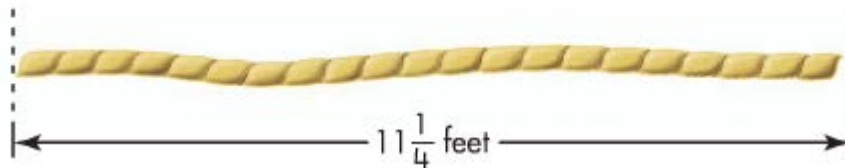
## Fourth Grade Topic 12 Performance Task

Name: \_\_\_\_\_

Lia and Paul each have a length of rope.



1. Lia untied the knot in her rope. The full length of the rope is shown below. How much rope did the knot use?



2. **Estimate** if Lia laid her untied rope end-to-end with Paul's rope, about how long would the two ropes be? Explain whether the actual length would be more or less than your estimate.
3. Lia and Paul tied their two ropes together with a square knot. The knot used  $1 \frac{3}{4}$  feet of rope. How long is their rope? Explain.



4. Toni had a rope measuring  $9\frac{1}{4}$  feet. She tied her rope to the rope from question three with another square knot that uses  $1\frac{3}{4}$  feet. What is the total length of the rope with the 2 square knots? Show your work.

5. How would your answer to question four change if Lia, Paul, and Toni laid their ropes end-to-end without knots? Explain how you found your answer.