Unit 6, Lesson 7

Multi-step Conversion Problems: Customary Lengths

Let's solve multi-step problems about customary length.

Warm-up

Number Talk: Multiples of 12

Find the value of each expression mentally.

- 45×2
- 45×10
- 45×12
- 46×12

Activity 1

Card Sort: Customary Measurements

Your teacher will give you a set of cards that show different measurements.

1. Sort the cards into categories in a way that makes sense to you. Be ready to explain the meaning of each category.

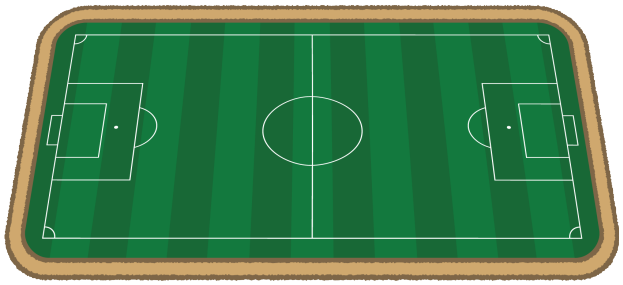
   (Pause for teacher directions.)

2. Sort the cards into groups that represent equal lengths.
3. For each unit of measure, order the lengths from shortest to longest.

Activity 2

Run a Mile or Two

1. A rectangular field is 90 yards long and $42\frac{1}{4}$ yards wide. Priya says that 6 laps around the field is a greater distance than a mile. Do you agree? Explain or show your reasoning.



2. A different rectangular field is $408\frac{1}{2}$ feet long and $240\frac{1}{4}$ feet wide. How many laps around this field does Priya run if she runs at least 2 miles?

Section A Summary

We studied **powers of 10** and conversions between units. We learned that we can write a product of 10s, such as $10 \times 10 \times 10 \times 10$, as a power of 10, such as 10^4. The number 4 is an **exponent** and it means that there are 4 factors of 10.

We also converted between different units of measure. There are 1,000 millimeters in a meter and 1,000 meters in a kilometer. This means that there are $1{,}000 \times 1{,}000$ or $1{,}000{,}000$ millimeters in a kilometer. We also can say there are 10^6 millimeters in a kilometer.

We used our understanding of decimals to make conversions. There are 1,000 meters in a kilometer. Each meter is $\frac{1}{1{,}000}$ or 0.001 kilometer. So, 853 meters can also be written as 0.853 kilometer.