Unit 2, Lesson 14

Fraction Comparison Problems

Let's solve different kinds of fraction comparison problems.

Warm-up

Number Talk: Multiples of 10

Find the value of each expression mentally.

- $119 + 119$
- $139 + 139$
- $159 + 159$
- $199 + 199$

Activity 1

Mystery Fractions

Six friends were each given a list of 5 fractions. They each chose 1 fraction and wrote clues about their choice. Use their clues to identify the fraction they each chose.

Andre: $\frac{8}{12}$ $\frac{3}{6}$ $\frac{3}{4}$ $\frac{3}{2}$ $\frac{2}{12}$

- less than 1
- greater than $\frac{1}{3}$
- less than $\frac{2}{3}$

Tyler: $\frac{2}{6}$ $\frac{2}{2}$ $\frac{2}{4}$ $\frac{2}{3}$ $\frac{2}{5}$

- greater than $\frac{1}{3}$
- less than 1
- less than $\frac{1}{2}$

Clare: $\frac{4}{3}$ $\frac{4}{2}$ $\frac{3}{4}$ $\frac{1}{4}$ $\frac{2}{10}$

- greater than $\frac{2}{8}$
- less than $\frac{11}{6}$
- greater than 1

Diego: $\frac{2}{8}$ $\frac{6}{12}$ $\frac{6}{8}$ $\frac{12}{10}$ $\frac{11}{12}$

- greater than $\frac{1}{2}$
- less than 1
- greater than $\frac{3}{4}$

Elena: $\frac{2}{12}$ $\frac{50}{100}$ $\frac{4}{10}$ $\frac{3}{5}$ $\frac{7}{5}$

- greater than $\frac{2}{10}$
- less than 1
- greater than $\frac{3}{6}$

Noah: $\frac{18}{10}$ $\frac{7}{8}$ $\frac{2}{5}$ $\frac{18}{5}$ $\frac{150}{100}$

- greater than $\frac{1}{2}$
- less than $\frac{25}{10}$
- greater than $\frac{8}{5}$

Activity 2

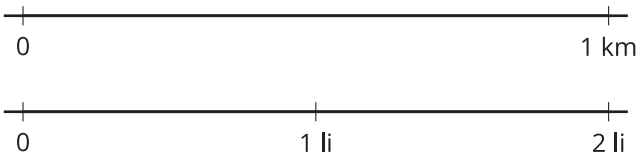
Distances on Foot

The "li' is a traditional unit of length in China and some East Asian countries.

Here are the walking distances between the home of a student in China and the places he visits regularly.

- school: $\frac{7}{5}$ li
- market: $\frac{7}{4}$ li
- library: $\frac{23}{10}$ li
- badminton club: $\frac{23}{12}$ li

1. Which is a shorter distance from the student's home:
   a. His school or the library?
   b. The market or the badminton club?
   c. The library or the market?
2. A student in the United States walks $\frac{4}{5}$ kilometer (km) to school. These number lines show how 1 kilometer compares to 1 li.



Which student walks a longer distance to school? Use the number lines to show your reasoning.

3. Explain why you can't just compare the fractions $\frac{4}{5}$ and $\frac{7}{5}$ to see which student walks a longer distance.