



# 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

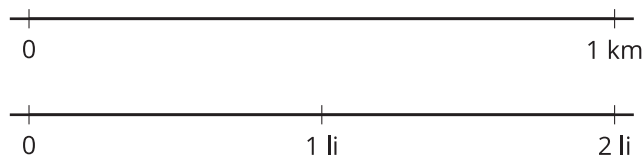
The “li” is a traditional unit of length in China and some East Asian countries.

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

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

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