1. Use fraction strips to find the following.

(a) \( \frac{1}{6} + \frac{5}{12} \)

Solution. The answer is \( \frac{7}{12} \).

(b) \( \frac{7}{8} - \frac{3}{4} \)

Solution. The answer is \( \frac{13}{8} \).

2. You asked a student to determine whether certain fractions were closer to 0, to \( \frac{1}{2} \), or to 1. He answered that since fractions were always small, they would all be close to 0. How would you respond?

Solution. You might start by agreeing with the student that in the real world the word fraction often means a small part. However, when we are writing numerical fractions, they can be quite large. For example, how big is \( \frac{11}{2} \)? That’s much bigger than one. \( \frac{99}{100} \) is a proper fraction, but it is much closer to 1 than to \( \frac{1}{2} \) or 0.

3. A student asks why he needs to find a common denominator when adding fractions. How do you respond?

Solution. When you add fractions, you’re adding up pieces of something. In order for the addition to make sense you can only add up pieces of the same size. For example, if we add \( \frac{1}{2} \) and \( \frac{1}{3} \), then we want to know how much a one-half sized piece of something added to a one-third sized piece of the same thing is. This is equivalent to saying what is \( \frac{3}{6} \) things plus \( \frac{2}{6} \) things, which is \( \frac{5}{6} \) things or \( \frac{5}{6} \).