

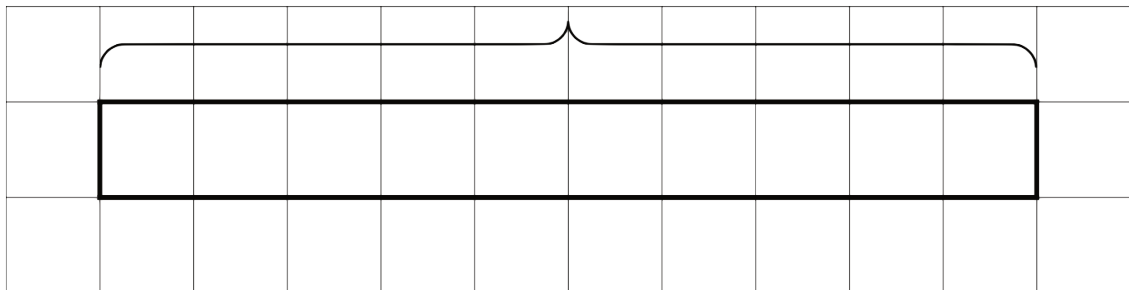
Unit 4 Lesson 6: Using Diagrams to Find the Number of Groups

1 How Many of These in That? (Warm up)

Student Task Statement

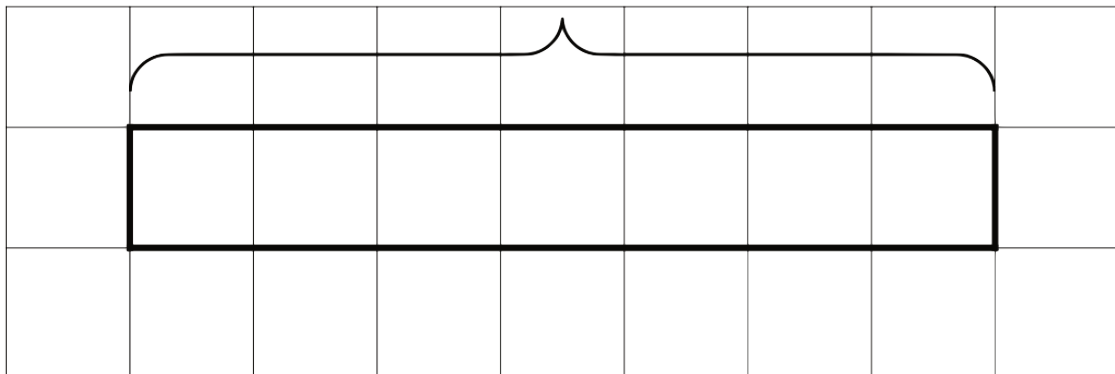
1. We can think of the division expression $10 \div 2\frac{1}{2}$ as the question: "How many groups of $2\frac{1}{2}$ are in 10?" Complete the tape diagram to represent this question. Then find the answer.

10



2. Complete the tape diagram to represent the question: "How many groups of 2 are in 7?" Then find the answer.

7



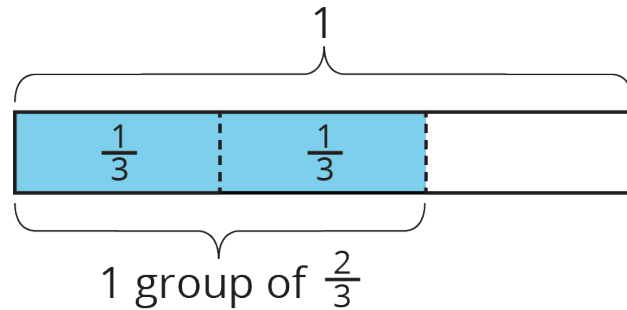
2 Representing Groups of Fractions with Tape Diagrams

Student Task Statement

To make sense of the question "How many $\frac{2}{3}$ s are in 1?," Andre wrote equations and drew a tape diagram.

$$? \cdot \frac{2}{3} = 1$$

$$1 \div \frac{2}{3} = ?$$



1. In an earlier task, we used pattern blocks to help us solve the equation $1 \div \frac{2}{3} = ?$. Explain how Andre's tape diagram can also help us solve the equation.
2. Write a multiplication equation and a division equation for each question. Then, draw a tape diagram and find the answer.

a. How many $\frac{3}{4}$ s are in 1?

b. How many $\frac{2}{3}$ s are in 3?

3 Finding Number of Groups

Student Task Statement

1. Write a multiplication equation or a division equation for each question. Then, find the answer and explain or show your reasoning.
 - a. How many $\frac{3}{8}$ -inch thick books make a stack that is 6 inches tall?
 - b. How many groups of $\frac{1}{2}$ pound are in $2\frac{3}{4}$ pounds?
2. Write a question that can be represented by the division equation $5 \div 1\frac{1}{2} = ?$. Then, find the answer and explain or show your reasoning.