## 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 $10÷2\frac{1}{2}$ 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.
* 
1. Complete the tape diagram to represent the question: “How many groups of 2 are in 7?” Then find the answer.
* 

### 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.

$?⋅\frac{2}{3}=1$

$1÷\frac{2}{3}=?$



1. In an earlier task, we used pattern blocks to help us solve the equation $1÷\frac{2}{3}=?$. 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.
	1. How many $\frac{3}{4}$s are in 1?
	* 
	1. How many $\frac{2}{3}$s are in 3?
	* 
	1. How many $\frac{3}{2}$s are in 5?
	* 

### 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.
	1. How many $\frac{3}{8}$-inch thick books make a stack that is 6 inches tall?
	2. 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 $5÷1\frac{1}{2}=?$. Then, find the answer and explain or show your reasoning.



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