Lesson 2: Interpreting Division of a Whole Number by a Fraction—Visual Models

Classwork

**Example 1**

Question #\_\_\_\_\_\_\_

Write it as a division question.

Write it as a multiplication question.

Make a rough draft of a model to represent the question:

As you travel to each model, be sure to answer the following questions:

|  |  |  |  |
| --- | --- | --- | --- |
| Original Questions | Write the division question that was answered in each model. | What multiplication question could the model also answer? | Write the question given to each group as a multiplication question. |
| 1. How many $\frac{1}{2}$ miles are in $12$ miles?
 |  |  |  |
| 1. How many quarter hours are in $5$ hours?
 |  |  |  |
| 1. How many $\frac{1}{3}$ cups are in $9$ cups?
 |  |  |  |
| 1. How many $\frac{1}{8}$ pizzas are in $4$ pizzas?
 |  |  |  |
| 1. How many one-fifths are in $7$ wholes?
 |  |  |  |

**Example 2**

Molly uses $9$ cups of flour to bake bread. If this is $\frac{3}{4}$ of the total amount of flour she started with, what was the original amount of flour?

1. Create a model to represent what the question is asking.
2. Explain how you would determine the answer using the model.

Exercises 1–5

1. A construction company is setting up signs on $4$ miles of the road. If the company places a sign every $\frac{1}{8}$ of a mile, how many signs will it need?
2. George bought $12$ pizzas for a birthday party. If each person will eat $\frac{3}{8}$ of a pizza, how many people can George feed with $12$ pizzas?
3. The Lopez family adopted $6$ miles of trail on the Erie Canal. If each family member can clean up$ \frac{3}{4} $of a mile, how many family members are needed to clean the adopted section?
4. Margo is freezing $8$ cups of strawberries. If this is $\frac{2}{3}$ of the total strawberries that were picked, how many cups of strawberries did Margo pick?
5. Regina is chopping up wood. She has chopped $10$ logs so far. If the $10$ logs represent $\frac{5}{8}$ of all the logs that need to be chopped, how many logs need to be chopped in all?

Problem Set

Rewrite each problem as a multiplication question. Model your answer.

1. Nicole has used $6$ feet of ribbon. This represents $\frac{3}{8} $of the total amount of ribbon she started with. How much ribbon did Nicole have at the start?
2. How many quarter hours are in $5$ hours?