

## Activity 9: Dividing Fractions

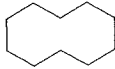
**PURPOSE** Develop understanding of division of fractions.

**MATERIALS** Pattern blocks (pages A-7 to A-11)

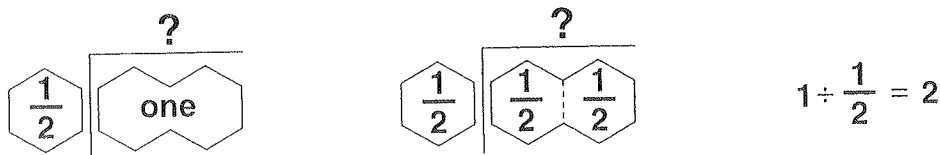
**GROUPING** Work individually.

**GETTING STARTED** Recall the use of the multiplication and division frame for the division of whole numbers.

**Example:**  $3 \overline{)6}$  can mean how many groups of 3 are there in 6?  $3 \overline{) \begin{array}{|c|} \hline 2 \\ \hline \end{array}}$

In the following example  represents 1.

**Example:**  $1 \div \frac{1}{2}$  means: How many groups of  $\frac{1}{2}$  are there in 1?



Complete each sentence and use your pattern blocks to solve the following problems.

1.  $\frac{1}{3} \div \frac{1}{6}$  means \_\_\_\_\_

$$\frac{1}{3} \div \frac{1}{6} =$$

2.  $\frac{1}{2} \div \frac{1}{4}$  means \_\_\_\_\_

$$\frac{1}{2} \div \frac{1}{4} =$$

3.  $\frac{5}{6} \div \frac{5}{12}$  means \_\_\_\_\_

$$\frac{5}{6} \div \frac{5}{12} =$$

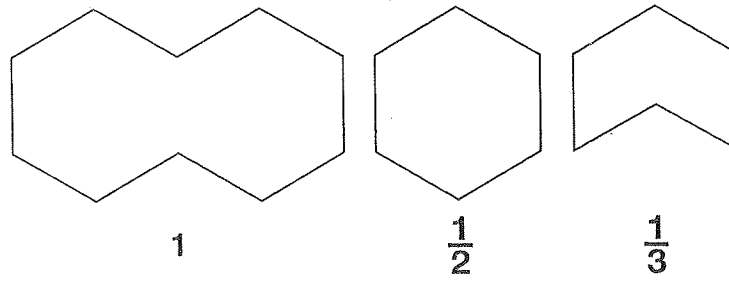
4.  $\frac{3}{4} \div \frac{1}{4}$  means \_\_\_\_\_

$$\frac{3}{4} \div \frac{1}{4} =$$

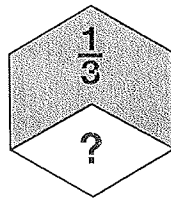
5.  $\frac{3}{2} \div \frac{3}{4}$  means \_\_\_\_\_

$$\frac{3}{2} \div \frac{3}{4} =$$

To model the problem  $\frac{1}{2} \div \frac{1}{3}$ , let



How many sets of  $\frac{1}{3}$  (two blue rhombuses) are there in  $\frac{1}{2}$  (one hexagon)?



There is one group of  $\frac{1}{3}$  (two blue rhombuses), plus a remainder.

The remainder is equal to one blue rhombus, which is  $\frac{1}{2}$  of  $\frac{1}{3}$ .

Therefore  $\frac{1}{2} \div \frac{1}{3} =$  one set of two blue rhombuses + one half set of two blue rhombuses

$$= 1 + \frac{1}{2}$$

$$= 1\frac{1}{2}$$

Use your pattern blocks to solve the following:

1.  $\frac{5}{6} \div \frac{1}{3} =$

2.  $\frac{3}{4} \div \frac{1}{2} =$

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

4.  $1\frac{1}{3} \div \frac{1}{2} =$

- EXTENSIONS**
- Describe how you would use fraction strips to solve the previous problems. Draw at least one illustration of your method.
  - From what you have observed in this activity, write a rule for division of fractions.