

## Lesson 4: Interpreting and Computing Division of a Fraction by a Fraction—More Models

### Classwork

#### Opening Exercise

Write at least three equivalent fractions for each fraction below.

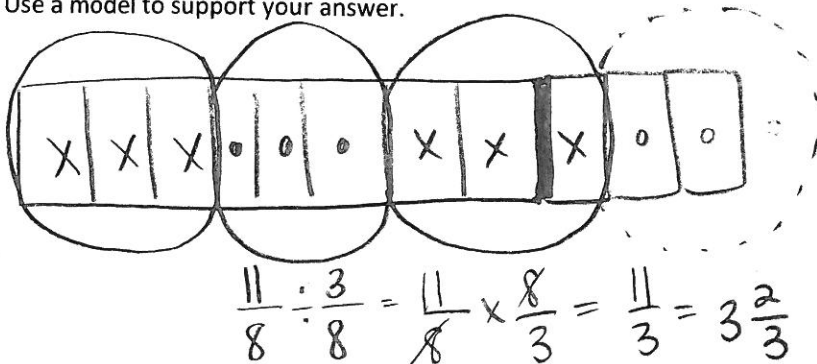
a.  $\frac{2}{3} = \frac{4}{6}, \frac{10}{15}, \frac{14}{21}$

b.  $\frac{10}{12} = \frac{5}{6}, \frac{30}{36}, \frac{25}{30}$

#### Example 1

Molly has  $1\frac{3}{8}$  cups of strawberries. She needs  $\frac{3}{8}$  cup of strawberries to make one batch of muffins. How many batches can Molly make?

Use a model to support your answer.

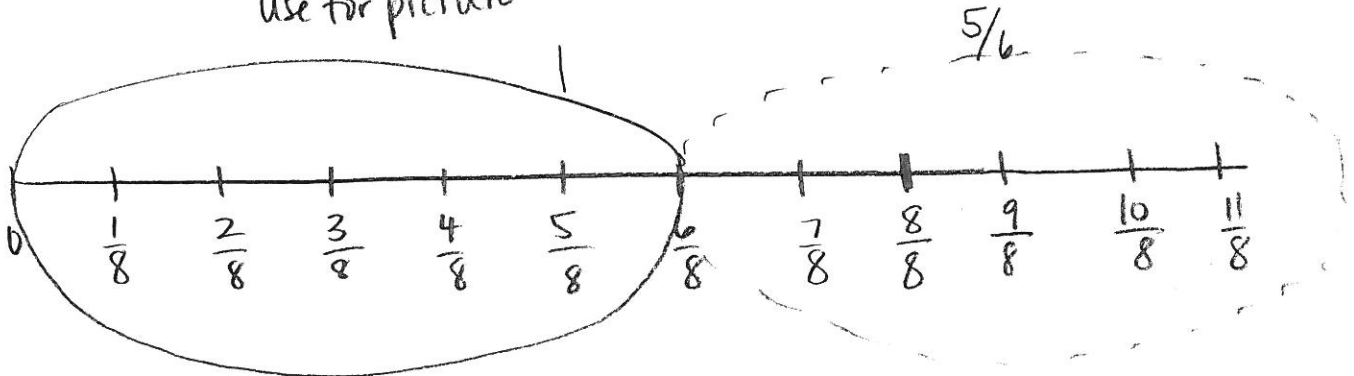


**Example 2**

Molly's friend, Xavier, also has  $\frac{11}{8}$  cups of strawberries. He needs  $\frac{3}{4}$  cup of strawberries to make a batch of tarts. How many batches can he make? Draw a model to support your solution.

$$\frac{11}{8} \div \frac{3}{4} = \left\{ \frac{11}{8} \div \frac{6}{8} \right\} = \frac{11}{8} \times \frac{8}{6} = \frac{11}{6} = 1 \frac{5}{6}$$

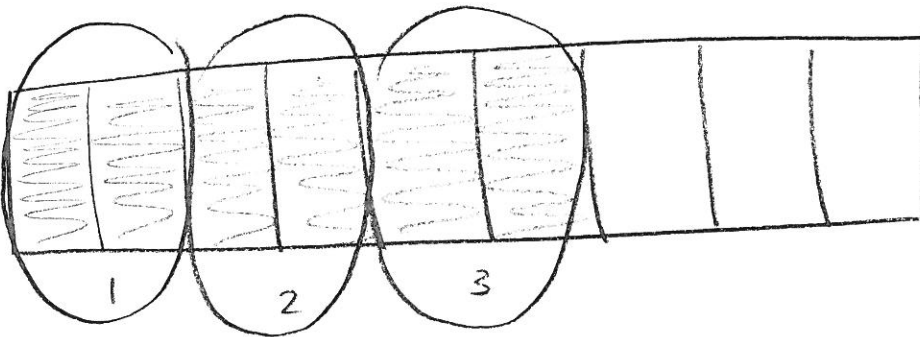
Use for picture



**Example 3**

Find the quotient:  $\frac{6}{8} \div \frac{2}{8}$ . Use a model to show your answer.

$$\frac{6}{8} \div \frac{2}{8} = \frac{6}{8} \times \frac{8}{2} = \frac{6}{2} = 3$$

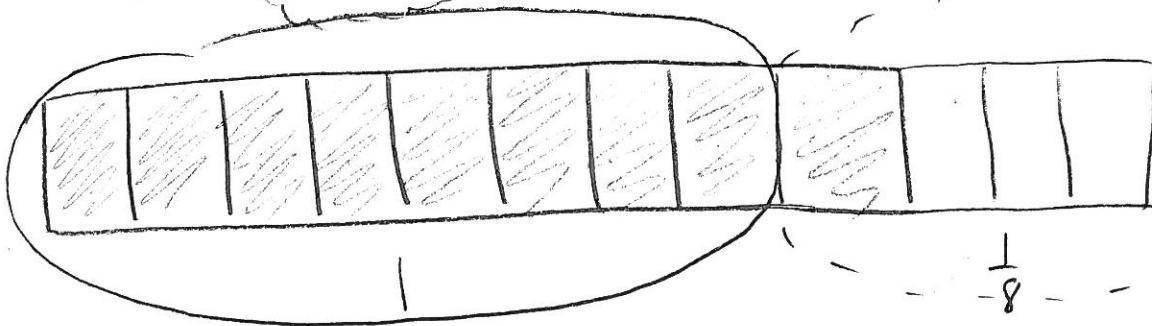


Example 4

Find the quotient:  $\frac{3}{4} \div \frac{2}{3}$ . Use a model to show your answer.

*picture*

$$\frac{3 \times 3}{4 \times 3} \div \frac{2 \times 4}{3 \times 4} = \frac{9}{12} \div \frac{8}{12} = \frac{9}{12} \times \frac{12}{8} = \frac{9}{8} = 1\frac{1}{8}$$

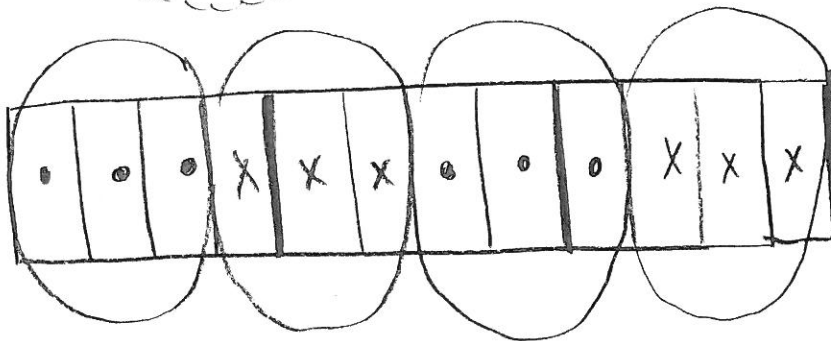


Exercises 1–5

Find each quotient.

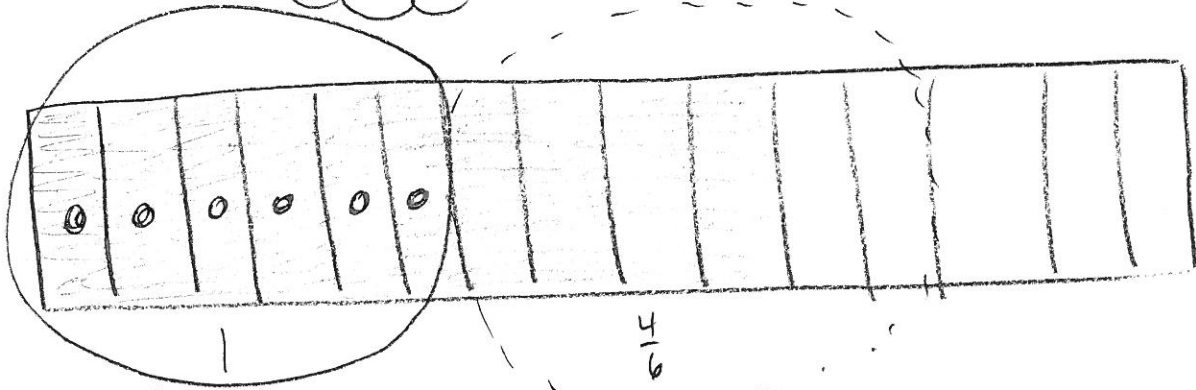
*picture*

$$1. \frac{6 \times 2}{2 \times 4} \div \frac{3}{4} = \frac{12}{4} \div \frac{3}{4} = \frac{12}{4} \times \frac{4}{3} = \frac{12}{3} = 4$$



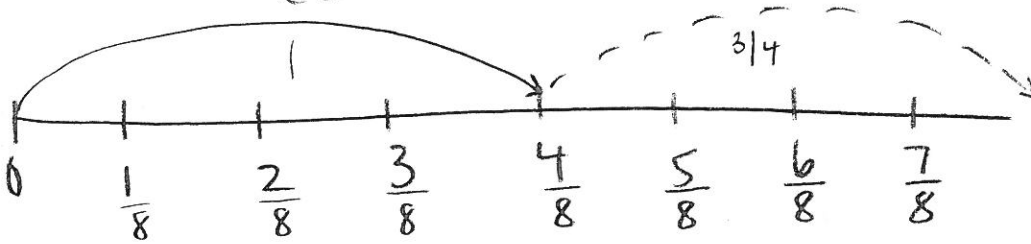
2.  $\frac{2}{3} \div \frac{2}{5} = \frac{2 \times 5}{3 \times 2} = \frac{10}{6} = 1 \frac{4}{6} = 1 \frac{2}{3}$

picture



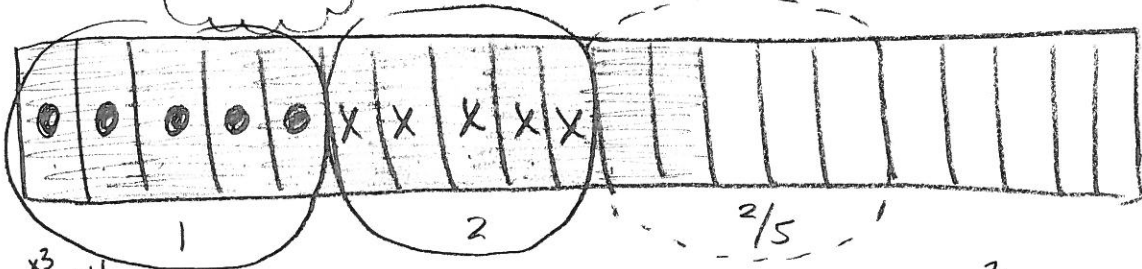
3.  $\frac{7}{8} \div \frac{1}{2} = \frac{7 \times 4}{8 \times 1} = \frac{28}{8} = 3 \frac{4}{8} = 3 \frac{1}{2}$

picture



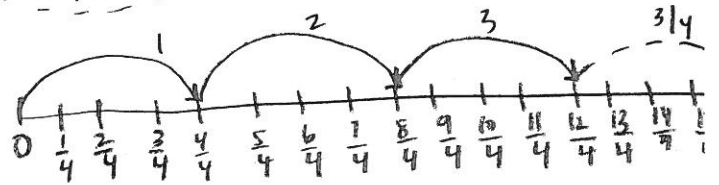
4.  $\frac{3}{5} \div \frac{1}{4} = \frac{3 \times 4}{5 \times 1} = \frac{12}{5} = 2 \frac{2}{5}$

picture



5.  $\frac{5}{4} \div \frac{1}{3} = \frac{5 \times 3}{4 \times 1} = \frac{15}{4} = 3 \frac{3}{4}$

picture



$\frac{15}{12} \div \frac{4}{12} = \frac{15}{12} \times \frac{12}{4} = \frac{15}{4} = 3 \frac{3}{4}$