Multiply Fractions

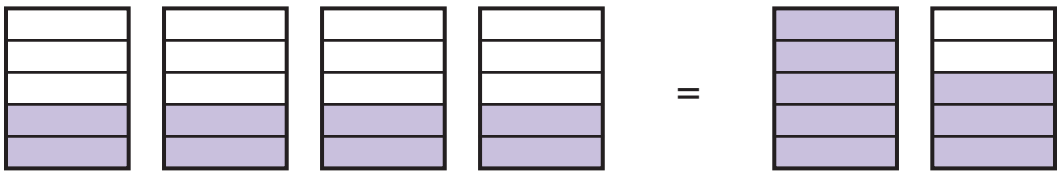
Name: _____

Prerequisite: Model Fraction Multiplication

Study the example showing fraction multiplication with models. Then solve problems 1–10.

Example

Find $4 \times \frac{2}{5}$.



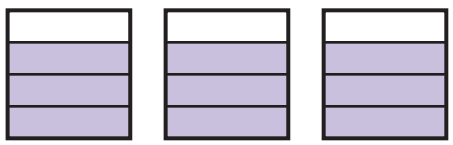
$\frac{2}{5}$ $\frac{2}{5}$ $\frac{2}{5}$ $\frac{2}{5}$ $\frac{8}{5} = 1\frac{3}{5}$

$4 \times \frac{2}{5}$

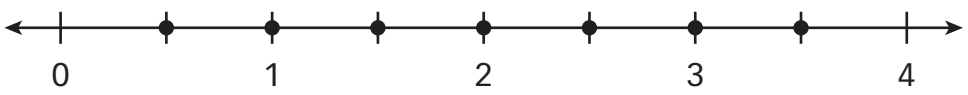
$4 \times \frac{2}{5} = \frac{8}{5} = 1\frac{3}{5}$

1 Write the fraction multiplication problem that the model below shows.

$\square \times \frac{\square}{\square}$



2 Label the number line below and use it to show $7 \times \frac{1}{2}$.



3 Write $7 \times \frac{1}{2}$ as repeated addition.

____ + ____ + ____ + ____ + ____ + ____ + ____

4 Find $7 \times \frac{1}{2}$.

$7 \times \frac{1}{2} = \frac{\square}{\square} = \square\frac{\square}{\square}$

Solve.

5 Fill in the blanks to show different ways to write problems with the same product as $4 \times \frac{3}{8}$.

_____ $\times \frac{1}{8}$ $\quad 3 \times \frac{\square}{8}$

6 Draw a model to show $3 \times \frac{2}{6}$.

7 Look at the model you drew in problem 6. Write two different multiplication problems that have the same product.

_____ _____

8 Solve the multiplication problems you wrote in problem 7. Explain why they have the same product as $3 \times \frac{2}{6}$.

Nadia made 4 loaves of bread. She used $\frac{3}{8}$ teaspoon of baking soda for each loaf.

9 Write a multiplication problem you could use to find how many teaspoons of baking soda Nadia used altogether.

10 Solve the multiplication problem.

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Solve Problems with Fraction Multiplication

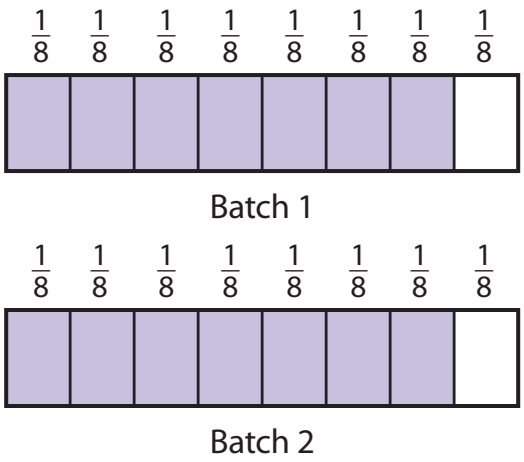
Study the example problem that shows how to solve a word problem with fraction multiplication. Then solve problems 1–7.

Example

Henry doubled a cookie recipe to make two batches of cookies. The recipe calls for $\frac{7}{8}$ cup of flour for each batch. How much flour did Henry use for both batches of cookies?

$$2 \times \frac{7}{8} = \frac{14}{8} \text{ or } 1\frac{6}{8}$$

number of batches | cups per batch | cups used



Henry used $\frac{14}{8}$, or $1\frac{6}{8}$, cups of flour.

1 Benson spent $\frac{5}{6}$ of an hour reading on each of 3 days this week. How long did Benson spend reading this week?

$$3 \times \frac{5}{6} = \frac{\square}{\square} = \square\frac{\square}{\square}$$

Benson spent _____ hours reading.

2 Show how to use repeated addition to check your answer in problem 1.

_____

3 Sabrina rode her bike $\frac{3}{4}$ of a mile. Katrin rode her bike 4 times as far as Sabrina. How far did Katrin ride her bike?

_____

Solve.

4 On Saturdays, Jorge coaches soccer for $\frac{1}{12}$ of the day. He also coaches tennis and swimming, each for the same amount of time as soccer. What fraction of the day does Jorge spend coaching on Saturdays?

_____

5 Greta planted flower seeds in 12 pots. She used $\frac{2}{6}$ of a bag of flower seeds in each pot. How many bags of flower seeds did Greta use?

_____

Leslie practiced the flute for $\frac{2}{6}$ of an hour 3 times this week. She practiced piano for $\frac{2}{3}$ of an hour 2 times this week.

6 Which expressions below can be used to show how much time Leslie spent practicing both the flute and piano this week? Circle the letter of all that apply.

A $\left(3 \times \frac{2}{6}\right) + \left(2 \times \frac{2}{3}\right)$

B $5 \times \left(\frac{2}{6} + \frac{2}{3}\right)$

C $\frac{2}{6} + \frac{2}{6} + \frac{2}{6} + \frac{2}{3} + \frac{2}{3}$

D $\frac{(3 \times 2)}{6} + \frac{(2 \times 2)}{3}$

7 Which did Leslie practice for a longer amount of time, the flute or the piano?

Show your work.

Solution: _____

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Multiply Fractions

Solve the problems.

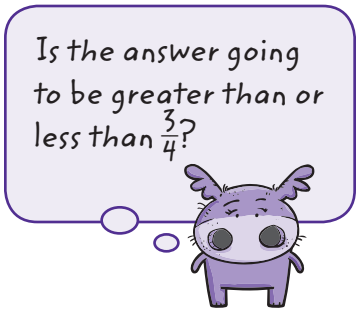
1 Rick cut a sheet of paper into 4 strips. Each strip was $\frac{3}{4}$ of an inch wide. How wide was the paper Rick cut?

A $\frac{3}{16}$ inch

B $\frac{12}{16}$ inch

C $\frac{7}{4}$ inches

D $\frac{12}{4}$ inches



2 Diane walked her dog $\frac{4}{10}$ of a mile on 5 days this week. How far did Diane walk her dog this week?

A $\frac{20}{50}$ mile

B $\frac{9}{15}$ mile

C $\frac{20}{10}$ miles

D $\frac{40}{5}$ miles

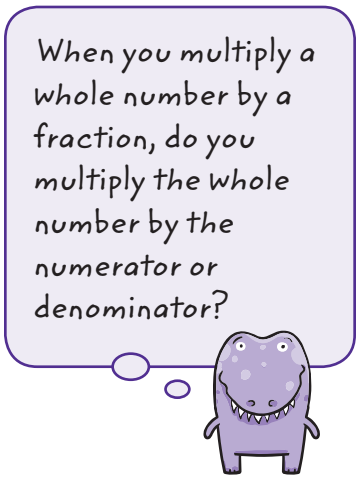
Zoe chose **A**. How did she get that answer?

_____

_____

_____

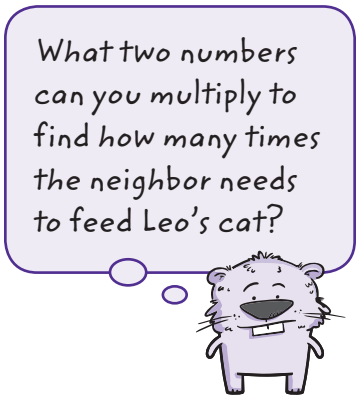
_____



3 Leo feeds his cat $\frac{2}{3}$ of a can of food 2 times a day. Leo is going out of town for 3 days. How many cans of food does Leo need to give a neighbor to feed his cat?

Show your work.

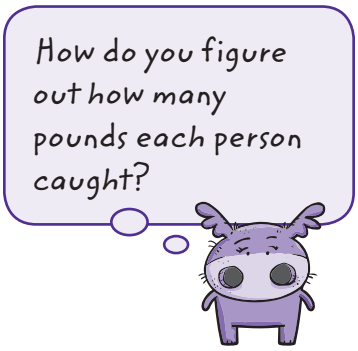
Solution: _____



Solve.

4 Luke and Matt went fishing. Luke caught 4 fish, each weighing $\frac{7}{8}$ of a pound. Matt caught 6 fish, each weighing $\frac{3}{4}$ of a pound. Who caught more pounds of fish?

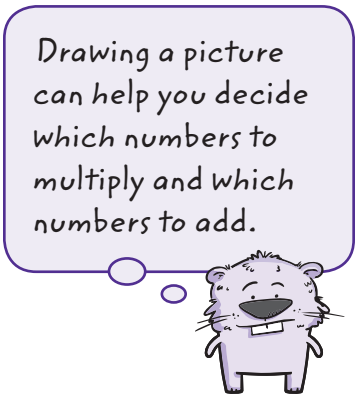
Show your work.



Solution: _____

5 Penny is training for a race. First she ran $\frac{1}{10}$ of a mile 4 times. Next she ran $\frac{1}{5}$ of a mile 3 times. Then she ran $\frac{3}{10}$ of a mile two times. How far did Penny run during her training?

Show your work.



Solution: _____