Multiply. Write in simplest form. (Examples 1-3)

1.
$$\frac{1}{2} \times 2\frac{3}{8} = \frac{1\frac{3}{16}}{16}$$

2.
$$1\frac{3}{4} \times 2\frac{4}{5} = \frac{4\frac{9}{10}}{10}$$

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

4. Melanie is training for a track meet. She ran $2\frac{1}{4}$ miles 5 times this week. How far did Melanie run this week? $11\frac{1}{4}$ miles (Examples 4 and 5)

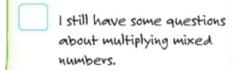
Building on the Essential Question How do you Sample answer: To multiply multiply mixed numbers? mixed numbers, write the mixed numbers as improper fractions. Simplify, if possible, before multiplying. Then, multiply the numerators and multiply the denominators.

Rate Yourself!





Great! You're ready to move on!







FOLDABLES Time to update your Foldable!



Multiply. Write in simplest form. (Examples 1-3)

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

2.
$$1\frac{7}{8} \times \frac{4}{5} = \frac{1\frac{1}{2}}{2}$$

3.
$$\frac{7}{8} \times 3\frac{1}{4} = \frac{2\frac{27}{32}}{32}$$



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

5.
$$3\frac{3}{4} \times 2\frac{2}{5} = 9$$

6.
$$6\frac{2}{3} \times 3\frac{3}{10} = 22$$

- A carp can travel at a speed of $3\frac{7}{10}$ miles per hour. At this rate, how far can a carp travel in $2\frac{1}{2}$ hours? (Example 4) $9\frac{1}{4}$ mi
- 8. Juliette is making fruit salad. She purchased $9\frac{2}{3}$ ounces each of 6 different fruits. How many ounces of fruit did she purchase? (Example 5)

58 ounces

A carp can travel at a speed of
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 $9\frac{1}{4}$ mi

8. Juliette is making fruit salad. She purchased $9\frac{2}{3}$ ounces each of 6 different fruits. How many ounces of fruit did she purchase? (Example 5)

58 ounces

- A waffle recipe calls for $2\frac{1}{4}$ cups of flour. If Chun wants to make $1\frac{1}{2}$ times the recipe, how much flour does he need? (Example 4) 33 c
- 10. Model with Mathematics Use the formula d = rt to find the distance d a long-distance runner can run at a rate r of $9\frac{1}{2}$ miles per hour for time t of $1\frac{3}{4}$ hours. 16<mark>5</mark> mi
- 11. STEW Earth is about $92\frac{9}{10}$ million miles from the Sun. Use the table shown.
 - about 69²⁷/₄₀ million mi a. How far is Venus from the Sun?
 - about 139⁷/₂₀ million mi b. How far is Mars from the Sun?
 - about 487²⁹/₄₀ million mi c. How far is Jupiter from the Sun? about 882 11 million mi
 - d. How far is Saturn from the Sun?

Planet	Approximate Number of Times as Far from the Sun as Earth		
Venus	$\frac{3}{4}$		
Mars	$1\frac{1}{2}$		
Jupiter	5 1		

Multiply. Write in simplest form.

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

13.
$$\frac{1}{7} \times 5\frac{5}{6} \times 1\frac{1}{4} = \frac{1\frac{1}{24}}{1}$$



H.O.T. Problems Higher Order Thinking

- **14.** Persevere with Problems Analyze each product in the table. Sample answers provided.
 - a. Why is the first product less than 3/4?
 The first product is less than 3/4 because the first factor is less than one. You only want a part of a whole, so the product is less than the second factor.
 - Why is the second product equal to ³/₄?
 The second product is equal to the second factor
 because of the Identity Property. The product of any number and one is that number.

First Factor		Second Factor		Product
1/2	×	$\frac{3}{4}$	=	3 8
1	×	$\frac{3}{4}$	=	3 4
3 2	×	3 4	=	98

- c. Why is the third product greater than $\frac{3}{4}$?

 The third product is greater than the second factor because the first factor is greater than one. So, the product is greater than $\frac{3}{4}$.
- d. Based on your observations, make a conjecture about the product when one of the factors is a number less than 1.
 Sample answer: When one of the factors is less than one, the product will be less than the other factor.
- 15. Use Math Tools Without multiplying, determine whether the product of $2\frac{1}{2} \times \frac{2}{3}$ is located on the number line at point A, B, or C. Explain your reasoning.

 B; the product must be greater than $\frac{2}{3}$ and less than $2\frac{1}{2}$.



16. Model with Mathematics Give two examples of mixed numbers that when multiplied by $\frac{3}{4}$ give a product between $\frac{3}{4}$ and 1. Sample answer: $1\frac{1}{4}$ and $1\frac{1}{15}$