

Additional Practice 8-3 Multiply Fractions and Whole Numbers

Another Look!

Lorena has a 16-inch long scarf, and $\frac{2}{3}$ of its length is red.
How many inches long is the red section of the scarf?

Since you are multiplying
16 by a fraction less than 1,
the answer will be less than 16.



Step 1

Multiply.

$$\frac{2}{3} \times 16 = \frac{2 \times 16}{3} = \frac{32}{3}$$

Step 2

Rewrite as a mixed number.

$$\frac{32}{3} = 10\frac{2}{3}$$

Step 3

Answer the question.

The red section of the scarf
is $10\frac{2}{3}$ inches long.

Leveled Practice In **1–16**, find each product. Write each product as a mixed number.

$$1. 26 \times \frac{3}{4} = \frac{26 \times 3}{4} = \frac{78}{4} = 19\frac{1}{2}$$

$$2. 9 \times \frac{7}{10} = \frac{9 \times 7}{10} = \frac{63}{10} = 6\frac{3}{10}$$

$$3. \frac{2}{5} \times 32 = \frac{2 \times 32}{5} = \frac{64}{5} = 12\frac{4}{5}$$

$$4. \frac{1}{8} \times 400 = \frac{1 \times 400}{8} = \frac{400}{8} = 50$$

$$5. 15 \times \frac{4}{5} \quad 12$$

$$6. \frac{3}{11} \times 66 \quad 18$$

$$7. 45 \times \frac{3}{8} \quad 16\frac{7}{8}$$

$$8. \frac{3}{10} \times 12 \quad 3\frac{3}{5}$$

$$9. 55 \times \frac{2}{5} \quad 22$$

$$10. \frac{5}{6} \times 40 \quad 33\frac{1}{3}$$

$$11. \frac{7}{9} \times 54 \quad 42$$

$$12. 600 \times \frac{5}{12} \quad 250$$

$$13. \frac{2}{3} \times 21 \quad 14$$

$$14. 500 \times \frac{3}{5} \quad 300$$

$$15. 72 \times \frac{5}{8} \quad 45$$

$$16. \frac{2}{9} \times 35 \quad 7\frac{7}{9}$$



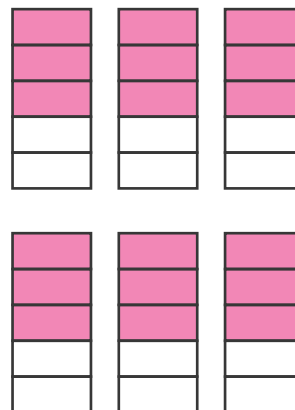
17. Find $6 \times \frac{3}{5}$. Use the model at the right to find the product.

Sample answer:

$$6 \times \frac{3}{5} = \frac{3}{5} + \frac{3}{5} + \frac{3}{5} + \frac{3}{5} + \frac{3}{5} + \frac{3}{5} = \frac{18}{5} = 3\frac{3}{5}$$

18. What mixed number represents the part of the model you did **NOT** shade for Exercise 17?

$$2\frac{2}{5}$$



19. Without multiplying, tell which is greater: 0.75×81 or 0.9×81 . Explain.

0.9×81 is greater; Sample answer: $0.9 > 0.75$, so $0.9 \times 81 > 0.75 \times 81$.

20. **Use Structure** Without multiplying, tell which is greater: $\frac{4}{5} \times 45$ or $\frac{2}{3} \times 45$. Explain.

$\frac{4}{5} \times 45$ is greater; Sample answer: $\frac{4}{5}$ is greater than $\frac{2}{3}$, so $\frac{4}{5} \times 45 > \frac{2}{3} \times 45$.

21. **Higher Order Thinking** The school library has 2,469 books. Two-thirds of the books are paperbacks. How many books are paperbacks?

1,646 books are paperbacks.

How can you use estimation to check that your answer is reasonable?



22. The table shows the amount of apple sauce made from one apple of each size. Patrice has 17 medium apples and 23 large apples. What is the total amount of applesauce that she can make with these apples?

$$25\frac{3}{4} \text{ cups}$$

Apple Size	Amount of Applesauce
Small	$\frac{1}{3}$ cup
Medium	$\frac{1}{2}$ cup
Large	$\frac{3}{4}$ cup



Assessment Practice

23. Select all that are true.

☐ $\frac{4}{9} \times 3 = \frac{4}{27}$

☒ $72 \times \frac{4}{9} = 32$

☐ $14 \times \frac{2}{7} = \frac{1}{49}$

☒ $15 \times \frac{3}{5} = 9$

24. Select all that are true.

☐ $6 \times \frac{3}{5} = \frac{1}{10}$

☐ $\frac{7}{8} \times 13 = \frac{7}{104}$

☒ $\frac{7}{8} \times 28 = 24\frac{1}{2}$

☒ $56 \times \frac{5}{9} = 31\frac{1}{9}$