SKILL 11: Multiplying a Fraction by a Whole Number

To multiply a fraction by a whole number, first write the whole number as an improper fraction. Then write the product of the numerators over the product of the denominators. Simplify if necessary.

Example

Multiply: $6 \times \frac{3}{4}$.

Write the whole number as an improper fraction.

$$6 \times \frac{3}{4} = \frac{6}{1} \times \frac{3}{4}$$

Multiply the numerators. Then multiply the denominators.

$$= \frac{6 \times 3}{1 \times 4}$$

Multiply and simplify.

$$= \frac{18}{4} = 4\frac{2}{4} = 4\frac{1}{2}$$

So, $6 \times \frac{3}{4} = 4\frac{1}{2}$.

Guided Practice

1. Multiply: $\frac{2}{3} \times 5$.

    a. Write the whole number as an improper fraction.

$$5 = \frac{\square}{\square}$$

    b. Multiply numerators and denominators.

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

    c. Simplify.

$$\frac{\square}{\square} = \square\frac{\square}{\square}$$

Multiply. Simplify each product.

2. $\frac{3}{8} \times 9 = \frac{3}{8} \times \frac{\square}{\square} = \frac{\square \times \square}{\square \times \square} = \underline{\hspace{1cm}}$

3. $\frac{1}{2} \times 8 = \frac{1}{2} \times \frac{\square}{\square} = \frac{\square \times \square}{\square \times \square} = \underline{\hspace{1cm}}$

4. $12 \times \frac{4}{5} = \frac{\square}{1} \times \frac{\square}{\square} = \frac{\square \times \square}{\square \times \square} = \underline{\hspace{1cm}}$

5. $2 \times \frac{5}{6} = \underline{\hspace{1cm}}$ **6.** $9 \times \frac{2}{3} = \underline{\hspace{1cm}}$ **7.** $8 \times \frac{3}{5} = \underline{\hspace{1cm}}$

8. $\frac{5}{8} \times 9 = \underline{\hspace{1cm}}$ **9.** $5 \times \frac{2}{7} = \underline{\hspace{1cm}}$ **10.** $7 \times \frac{3}{4} = \underline{\hspace{1cm}}$

SKILL 11: Practice

Multiply. Simplify each product.

1. $10 \times \frac{3}{8} =$ _____

2. $12 \times \frac{1}{2} =$ _____

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

4. $\frac{4}{5} \times 15 =$ _____

5. $3 \times \frac{11}{12} =$ _____

6. $7 \times \frac{4}{5} =$ _____

7. $\frac{2}{7} \times 6 =$ _____

8. $\frac{2}{3} \times 9 =$ _____

9. $\frac{7}{10} \times 5 =$ _____

10. $9 \times \frac{5}{6} =$ _____

11. $8 \times \frac{2}{3} =$ _____

12. $\frac{1}{4} \times 16 =$ _____

13. $12 \times \frac{3}{8} =$ _____

14. $\frac{3}{4} \times 6 =$ _____

15. $\frac{3}{8} \times 8 =$ _____

16. $\frac{2}{3} \times 12 =$ _____

17. $2 \times \frac{5}{12} =$ _____

18. $4 \times \frac{5}{8} =$ _____

19. $3 \times \frac{8}{9} =$ _____

20. $\frac{3}{10} \times 5 =$ _____

21. $8 \times \frac{5}{12} =$ _____

22. $\frac{1}{6} \times 9 =$ _____

23. $6 \times \frac{4}{6} =$ _____

24. $12 \times \frac{5}{8} =$ _____

Solve.

25. Amal's bones make up about $\frac{1}{5}$ of his body weight. He weighs 140 pounds. How many pounds do his bones weigh? _____

26. Jessica bought a 5-gallon can of paint. After painting her room, $\frac{2}{5}$ of the paint was left. How many gallons of paint did she use? _____

TEST PREP

27. What is $2 \times \frac{7}{10}$?

Skill 11

   A $\frac{9}{10}$ **C** $1\frac{4}{5}$

   B $1\frac{2}{5}$ **D** $2\frac{7}{10}$

28. Find $8\frac{1}{4} + 3\frac{7}{8}$ in lowest terms.

Skill 4

   F $11\frac{1}{8}$ **H** $12\frac{1}{8}$

   G $1\frac{2}{3}$ **J** $12\frac{8}{9}$