



## SKILL 9: Estimating Products

You can round to estimate products of fractions and mixed numbers.

- Round each factor to the nearest whole number.
- Multiply the whole numbers.

### Example

**Estimate:**  $4\frac{3}{5} \times 2\frac{3}{8}$ .

Compare the fractions to  $\frac{1}{2}$ .

$$\frac{3}{5} \geq \frac{1}{2}$$

$$\frac{3}{8} < \frac{1}{2}$$

Round each fraction to either 0 or 1.

$$\frac{3}{5} \text{ rounds to } 1.$$

$$\frac{3}{8} \text{ rounds to } 0.$$

Add the rounded fraction to the whole number.

$$4 + 1 = 5$$

$$2 + 0 = 2$$

Multiply.

$$5 \times 2 = 10$$

So,  $4\frac{3}{5} \times 2\frac{3}{8}$  is about 10.

### Guided Practice

1. Estimate:  $2\frac{2}{3} \times 5\frac{4}{9}$ .

a. Round each fraction to either 0 or 1.  $\frac{2}{3} \rightarrow$  \_\_\_\_\_  $\frac{4}{9} \rightarrow$  \_\_\_\_\_

b. Round each mixed number:  $2\frac{2}{3} \rightarrow 2 +$  \_\_\_\_\_  $=$  \_\_\_\_\_

$$5\frac{4}{9} \rightarrow 5 +$$
 \_\_\_\_\_  $=$  \_\_\_\_\_

c. Multiply to obtain the estimated product. \_\_\_\_\_  $\times$  \_\_\_\_\_  $=$  \_\_\_\_\_

2. Estimate:  $\frac{1}{8} \times 1\frac{5}{6}$ .

a. Round to the nearest whole number:  $\frac{1}{8} \rightarrow$  \_\_\_\_\_  $1\frac{5}{6} \rightarrow$  \_\_\_\_\_

b. Multiply to obtain the estimated product. \_\_\_\_\_  $\times$  \_\_\_\_\_  $=$  \_\_\_\_\_

**Estimate each product. Show your rounded factors.**

3.  $3\frac{7}{9} \times 5\frac{4}{15} \rightarrow$  \_\_\_\_\_  $\times$  \_\_\_\_\_  $=$  \_\_\_\_\_

4.  $8\frac{4}{9} \times 6\frac{5}{8} \rightarrow$  \_\_\_\_\_  $\times$  \_\_\_\_\_  $=$  \_\_\_\_\_

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

6.  $\frac{4}{5} \times 1\frac{1}{3} \rightarrow$  \_\_\_\_\_  $\times$  \_\_\_\_\_  $=$  \_\_\_\_\_

7.  $3\frac{5}{6} \times 4\frac{2}{3} \rightarrow$  \_\_\_\_\_  $\times$  \_\_\_\_\_  $=$  \_\_\_\_\_

8.  $\frac{2}{3} \times \frac{3}{4} \rightarrow$  \_\_\_\_\_  $\times$  \_\_\_\_\_  $=$  \_\_\_\_\_

9.  $8\frac{1}{2} \times 6\frac{1}{4} \rightarrow$  \_\_\_\_\_  $\times$  \_\_\_\_\_  $=$  \_\_\_\_\_

10.  $\frac{8}{9} \times 1\frac{1}{10} \rightarrow$  \_\_\_\_\_  $\times$  \_\_\_\_\_  $=$  \_\_\_\_\_

11.  $5\frac{1}{3} \times \frac{3}{4} \rightarrow$  \_\_\_\_\_  $\times$  \_\_\_\_\_  $=$  \_\_\_\_\_

12.  $\frac{3}{8} \times \frac{1}{5} \rightarrow$  \_\_\_\_\_  $\times$  \_\_\_\_\_  $=$  \_\_\_\_\_

**SKILL 9: Practice**

Estimate each product.

1.  $6\frac{3}{1} \times 12\frac{7}{1}$  \_\_\_\_\_

4.  $5\frac{5}{2} \times 3$  \_\_\_\_\_

7.  $7\frac{5}{5} \times 9\frac{5}{3}$  \_\_\_\_\_

10.  $9\frac{4}{1} \times \frac{4}{3}$  \_\_\_\_\_

13.  $4\frac{5}{4} \times 5\frac{2}{1}$  \_\_\_\_\_

16.  $\frac{7}{5} \times \frac{3}{2}$  \_\_\_\_\_

19.  $8\frac{3}{2} \times 9\frac{6}{9}$  \_\_\_\_\_

22.  $8\frac{5}{3} \times 4\frac{10}{1}$  \_\_\_\_\_

25.  $9\frac{7}{4} \times 12\frac{7}{5}$  \_\_\_\_\_

2.  $7\frac{9}{10} \times 3\frac{1}{3}$  \_\_\_\_\_

5.  $3\frac{3}{1} \times 5\frac{7}{1}$  \_\_\_\_\_

8.  $\frac{9}{2} \times \frac{5}{3}$  \_\_\_\_\_

11.  $2\frac{2}{1} \times 3\frac{9}{4}$  \_\_\_\_\_

14.  $\frac{3}{2} \times 4\frac{3}{1}$  \_\_\_\_\_

17.  $\frac{7}{3} \times \frac{6}{1}$  \_\_\_\_\_

20.  $1\frac{8}{3} \times 5\frac{5}{2}$  \_\_\_\_\_

23.  $3\frac{4}{3} \times 3\frac{10}{7}$  \_\_\_\_\_

26.  $9\frac{5}{2} \times 4\frac{3}{1}$  \_\_\_\_\_

3.  $4\frac{3}{2} \times 3\frac{4}{3}$  \_\_\_\_\_

6.  $\frac{5}{3} \times 7\frac{5}{1}$  \_\_\_\_\_

9.  $7\frac{4}{1} \times 13\frac{5}{4}$  \_\_\_\_\_

12.  $\frac{8}{7} \times 3\frac{9}{2}$  \_\_\_\_\_

15.  $7\frac{5}{2} \times 7\frac{2}{1}$  \_\_\_\_\_

18.  $7\frac{3}{2} \times 6\frac{3}{1}$  \_\_\_\_\_

21.  $4\frac{5}{2} \times 6\frac{2}{1}$  \_\_\_\_\_

24.  $2\frac{4}{3} \times 7\frac{2}{1}$  \_\_\_\_\_

27.  $8\frac{6}{7} \times 9\frac{6}{4}$  \_\_\_\_\_

28. A CD case measures  $5\frac{8}{5}$  inches across. A music store manager wants to display 7 CDs side-by-side on a 42-inch shelf. Is there enough room for the display?
29. A lasagna recipe calls for  $1\frac{4}{1}$  pounds of mozzarella cheese. About how much cheese should Tanya buy to make  $2\frac{1}{2}$  times the recipe?

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30. Which is the best estimate of  $5\frac{3}{4} \times 2\frac{1}{5}$ ?
- A 8  
B 10  
C 12  
D 18

Skill 9

31. Bryce has  $\frac{6}{5}$  yard of ribbon. He uses  $\frac{6}{1}$  yard to wrap a gift. How much ribbon does he have left?
- F  $\frac{6}{1}$  yd  
G  $\frac{3}{2}$  yd  
H  $\frac{5}{4}$  yd  
J  $1\frac{6}{1}$  yd

Skill 5