

# Grade 4 · Multiplying a Fraction by a Whole Number · Worksheet Answer Key

Common Core 4.NF.B.4 · mathovore.fr

Every solution shows the multiplication, the improper fraction, and the mixed number when the product is more than 1. Compare each step with your own work, and find the step where your work first differs from the key.

## Grade 4 Common Core: 4.NF.B.4

### Problem 1: Shaded part as a multiple

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There are 6 equal parts, so each part is  $\frac{1}{6}$ . Five parts are shaded.

$$5 \times \frac{1}{6} = \frac{5}{6}$$

Answer:  $5 \times \frac{1}{6}$

### Problem 2: Unit fractions in seven eighths

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Seven eighths is 7 pieces of size  $\frac{1}{8}$ .

$$\text{Answer: } \frac{7}{8} = 7 \times \frac{1}{8}$$

### Problem 3: Repeated addition

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There are 5 addends, each  $\frac{1}{4}$ .

$$5 \times \frac{1}{4} = \frac{5}{4} = 1\frac{1}{4}$$

Answer:  $\frac{5}{4} = 1\frac{1}{4}$

### Problem 4: Four thirds on a number line

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Four hops of  $\frac{1}{3}$  land on  $\frac{4}{3}$ .

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

Answer:  $1\frac{1}{3}$

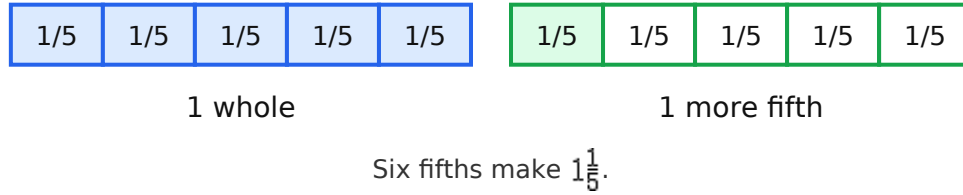
### Problem 5: Three groups of two fifths

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Each row has 2 fifths. Three rows have 6 fifths.

$$3 \times \frac{2}{5} = \frac{6}{5} = 1\frac{1}{5}$$

Answer:  $1\frac{1}{5}$



### Problem 6: Two groups of three eighths

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$$2 \times \frac{3}{8} = \frac{6}{8} = \frac{3}{4}$$

Both  $\frac{6}{8}$  and  $\frac{3}{4}$  name the same amount.

Answer:  $\frac{3}{4}$

### Problem 7: Five sixths

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$$4 \times \frac{5}{6} = \frac{20}{6} = 3\frac{2}{6} = 3\frac{1}{3}$$

Check: 18 sixths is 3 wholes, and 2 sixths are left.

Answer:  $3\frac{1}{3}$

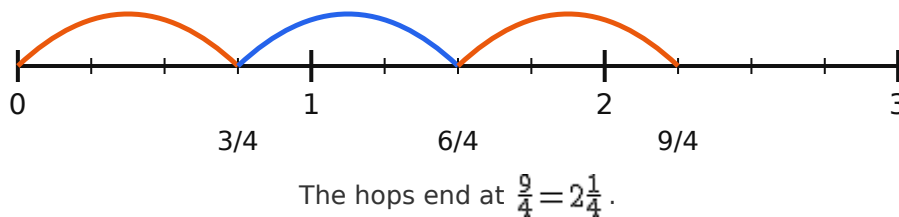
### Problem 8: Hops of three fourths

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Hops land on  $\frac{3}{4}$ ,  $\frac{6}{4}$ ,  $\frac{9}{4}$ .

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

Answer:  $2\frac{1}{4}$



### Problem 9: Six groups of two thirds

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$$6 \times \frac{2}{3} = \frac{12}{3} = 4$$

Twelve thirds make exactly 4 wholes.

Answer: **4**

### Problem 10: Four groups of five sixths

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Count the shaded pieces:  $5+5+5+5=20$  sixths.

$$4 \times \frac{5}{6} = \frac{20}{6} = 3\frac{2}{6} = 3\frac{1}{3}$$

Answer:  $3\frac{1}{3}$

### Problem 11: Seven groups of three tenths

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$$7 \times \frac{3}{10} = \frac{21}{10} = 2\frac{1}{10}$$

Answer:  $2\frac{1}{10}$

### Problem 12: Eight groups of three fifths

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$$8 \times \frac{3}{5} = \frac{24}{5} = 4\frac{4}{5}$$

Answer:  $4\frac{4}{5}$

### Problem 13: Twelfths

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$$6 \times \frac{5}{12} = \frac{30}{12} = 2\frac{6}{12} = 2\frac{1}{2}$$

Answer:  $2\frac{1}{2}$

### Problem 14: Missing number

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Fifteen eighths is 5 equal groups, so each group has  $15 \div 5 = 3$  eighths.

$$\text{Check: } 5 \times \frac{3}{8} = \frac{15}{8}$$

Answer:  $\frac{3}{8}$

### Problem 15: Compare two products

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$$3 \times \frac{2}{5} = \frac{6}{5} = 1\frac{1}{5}$$

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

$\frac{8}{5}$  has more fifths than  $\frac{6}{5}$ .

Answer:  $2 \times \frac{4}{5}$  is greater

### Problem 16: Is it correct?

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Multiplying the denominator changes the size of the pieces, but the pieces stay eighths. Four groups of 3 eighths is 12 eighths.

$$4 \times \frac{3}{8} = \frac{12}{8} = 1 \frac{4}{8} = 1 \frac{1}{2}$$

Answer:  $1 \frac{1}{2}$

### Problem 17: Milk each morning

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$$6 \times \frac{3}{4} = \frac{18}{4} = 4 \frac{2}{4} = 4 \frac{1}{2}$$

Eighteen fourths: 16 fourths make 4 wholes, and 2 fourths remain.

Answer:  $4 \frac{1}{2}$  **cups**



4 wholes and  $\frac{2}{4}$  more

$$\text{Eighteen fourths} = 4 \frac{2}{4} = 4 \frac{1}{2}.$$

### Problem 18: Flour for cookies

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

Answer:  $3 \frac{1}{3}$  **cups**

### Problem 19: Ribbon for bows

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$$4 \times \frac{5}{8} = \frac{20}{8} = 2 \frac{4}{8} = 2 \frac{1}{2}$$

Answer:  $2 \frac{1}{2}$  **yards**

### Problem 20: Little League practice

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$$9 \times \frac{3}{10} = \frac{27}{10} = 2 \frac{7}{10}$$

Answer:  $2 \frac{7}{10}$  **miles**

### Problem 21: Walk to school

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$$\text{Each day: } 2 \times \frac{7}{10} = \frac{14}{10}$$

$$\text{Five days: } 5 \times \frac{14}{10} = \frac{70}{10} = 7$$

Answer: **7 miles**

### Problem 22: Farmers market

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$$7 \times \frac{3}{4} = \frac{21}{4} = 5 \frac{1}{4}$$

Twenty fourths make 5 wholes, so  $5 \frac{1}{4}$  is more than 5.

Answer:  $5\frac{1}{4}$  pounds; yes

### Problem 23: Lemonade

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$$4 \times \frac{5}{6} = \frac{20}{6} = 3\frac{2}{6} = 3\frac{1}{3}$$

$3\frac{1}{3}$  is more than 3, so there is enough, with  $\frac{1}{3}$  gallon extra.

Answer: **Yes,  $3\frac{1}{3}$  gallons**

### Problem 24: Bike rides

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$$\text{Jamal: } 4 \times \frac{5}{8} = \frac{20}{8} = 2\frac{4}{8} = 2\frac{1}{2}$$

$$\text{Mei: } 3 \times \frac{7}{8} = \frac{21}{8} = 2\frac{5}{8}$$

$$\frac{21}{8} - \frac{20}{8} = \frac{1}{8}$$

Answer: **Mei, by  $\frac{1}{8}$  mile**