



Multiplying Fractions – Grade 5 Practice

Name: _____

Date: _____

Grade: Grade 5

Multiply the fractions. Show your work and write each answer in simplest form. For word problems, include the multiplication expression and the simplified result.

EXAMPLE

$$1/2 \times 3/4 = \underline{\hspace{2cm}}$$

Step 1: Multiply the numerators: $1 \times 3 = 3$.

Step 2: Multiply the denominators: $2 \times 4 = 8$.

Step 3: Simplify $3/8$. It is already in simplest form. Answer: $3/8$.

**Part 1: Multiply proper fractions**

1. $1/3 \times 1/2 = \underline{\hspace{2cm}}$

2. $2/5 \times 3/4 = \underline{\hspace{2cm}}$

3. $4/7 \times 2/3 = \underline{\hspace{2cm}}$

4. $5/6 \times 3/5 = \underline{\hspace{2cm}}$

5. $7/8 \times 4/9 = \underline{\hspace{2cm}}$

6. $3/10 \times 5/6 = \underline{\hspace{2cm}}$

Part 2: Multiply mixed numbers (convert to improper fractions)

7. $1 \frac{1}{2} \times 2 = \underline{\hspace{2cm}}$

8. $2 \frac{1}{3} \times \frac{3}{4} = \underline{\hspace{2cm}}$

9. $3 \frac{1}{4} \times 1 \frac{1}{2} = \underline{\hspace{2cm}}$

10. $4 \times 2 \frac{2}{5} = \underline{\hspace{2cm}}$

11. $1 \frac{2}{3} \times 2 \frac{1}{4} = \underline{\hspace{2cm}}$

Part 3: Word problems – set up and multiply

12. A recipe calls for $\frac{3}{4}$ cup of sugar. You make half of the recipe. How much sugar do you use? Show the multiplication and the simplified answer.

13. Lina walked $\frac{2}{3}$ of a kilometer each day for 3 days. What part of a kilometer did she walk in total? (Multiply the fraction by 3 and give a simplified answer.)

14. A ribbon is $\frac{5}{6}$ meter long. You cut $\frac{1}{3}$ of the ribbon off. How much ribbon did you cut? Show the multiplication and simplified result.

15. A classroom has 24 students. If $\frac{2}{3}$ of students bring a pencil and each brings $\frac{1}{2}$ of a packet of erasers, how many packets of erasers are used? (Multiply fractions and then apply to 24; give a simplified number.)

16. Sam paints $\frac{3}{4}$ of a fence in one hour. How much fence will he paint in $2\frac{1}{2}$ hours at the same rate? Show multiplication and give the simplified answer as a mixed number or simplified improper fraction.

17. A gardener uses $\frac{7}{10}$ of a bag of soil for one raised bed. She plants 4 beds. How many bags does she need? Show multiplication and simplify the answer (as a mixed number if needed).

Answer Key

WORKSHEET

1. $\frac{1}{6}$

1) Multiply numerators: $1 \times 1 = 1$. 2) Multiply denominators: $3 \times 2 = 6$. 3) Simplify $\frac{1}{6}$ (already simplest).

Common mistake: Students sometimes add numerators and denominators, giving $\frac{2}{5}$ instead of $\frac{1}{6}$.

2. $\frac{3}{10}$

1) Multiply numerators: $2 \times 3 = 6$. 2) Multiply denominators: $5 \times 4 = 20$. 3) Simplify $\frac{6}{20}$ by dividing top and bottom by 2: $\frac{6}{20} = \frac{3}{10}$.

Common mistake: Students often multiply denominators but forget to simplify, leaving $\frac{6}{20}$ instead of $\frac{3}{10}$.

3. $\frac{8}{21}$

1) Multiply numerators: $4 \times 2 = 8$. 2) Multiply denominators: $7 \times 3 = 21$. 3) $\frac{8}{21}$ is already in simplest form.

Common mistake: Students sometimes cancel incorrectly across non-common factors and produce $\frac{2}{9}$ instead of $\frac{8}{21}$.

4. $\frac{1}{2}$

1) Multiply numerators: $5 \times 3 = 15$. 2) Multiply denominators: $6 \times 5 = 30$. 3) Simplify $\frac{15}{30}$ by dividing by 15: $\frac{15}{30} = \frac{1}{2}$.

Common mistake: Students sometimes cancel 5 with 6 incorrectly to get $\frac{3}{6} = \frac{1}{2}$ or directly write $\frac{3}{6}$ instead of simplifying correctly to $\frac{1}{2}$.

5. $\frac{7}{18}$

1) Multiply numerators: $7 \times 4 = 28$. 2) Multiply denominators: $8 \times 9 = 72$. 3) Simplify $\frac{28}{72}$ by dividing numerator and denominator by 4: $\frac{28}{72} = \frac{7}{18}$.

Common mistake: Students might cancel 4 with 72 incorrectly to get $\frac{7}{9}$ instead of $\frac{7}{18}$.

6. $\frac{1}{4}$

1) Multiply numerators: $3 \times 5 = 15$. 2) Multiply denominators: $10 \times 6 = 60$. 3) Simplify $\frac{15}{60}$ by dividing by 15: $\frac{15}{60} = \frac{1}{4}$.

Common mistake: Students sometimes cancel 3 with 6 then forget to reduce fully and write $\frac{1}{20}$ instead of $\frac{1}{4}$.

7. 3

1) Convert mixed number to improper fraction: $1 \frac{1}{2} = \frac{(1 \times 2 + 1)}{2} = \frac{3}{2}$. 2) Write 2 as fraction $\frac{2}{1}$ and multiply: $\frac{3}{2} \times \frac{2}{1} = \frac{6}{2}$. 3) Simplify $\frac{6}{2} = 3$.

Common mistake: Students sometimes multiply $1 \frac{1}{2} \times 2$ by just doubling $1 \frac{1}{2}$ incorrectly to get $2 \frac{3}{4}$ instead of 3.

8. $\frac{7}{4}$

1) Convert $2 \frac{1}{3}$ to an improper fraction: $2 \frac{1}{3} = \frac{7}{3}$. 2) Multiply: $(\frac{7}{3}) \times (\frac{3}{4}) = \frac{21}{12}$. 3) Simplify $\frac{21}{12}$ by dividing numerator and denominator by 3: $\frac{21}{12} = \frac{7}{4}$.

Common mistake: Students sometimes multiply $2 \frac{1}{3} \times \frac{3}{4}$ by only multiplying the whole numbers 2×3 and forgetting the fractional part, giving 6 instead of $\frac{7}{4}$.

9. $\frac{39}{8}$

1) Convert both to improper fractions: $3 \frac{1}{4} = \frac{(3 \times 4 + 1)}{4} = \frac{13}{4}$; $1 \frac{1}{2} = \frac{3}{2}$. 2) Multiply: $\frac{13}{4} \times \frac{3}{2} = \frac{39}{8}$. 3) $\frac{39}{8}$ is simplified; as a mixed number it is $4 \frac{7}{8}$, but answer kept as simplest improper fraction $\frac{39}{8}$.

Common mistake: Students sometimes multiply the whole numbers and the fractions separately (3×1 and $\frac{1}{4} \times \frac{1}{2}$) then add results, producing the wrong value $3 \frac{1}{8}$ instead of $\frac{39}{8}$.

10. $48/5$

1) Convert $2 \frac{2}{5}$ to improper fraction: $(2 \times 5 + 2)/5 = 12/5$. 2) Multiply: $4 = 4/1$ so $4/1 \times 12/5 = 48/5$. 3) $48/5$ is simplified; as mixed number it is $9 \frac{3}{5}$, but answer given as simplest improper fraction $48/5$.

Common mistake: Students sometimes multiply 4 by only the numerator 12 to get 48 then forget denominator, writing 48 instead of $48/5$.

11. $15/4$

1) Convert to improper fractions: $1 \frac{2}{3} = (1 \times 3 + 2)/3 = 5/3$; $2 \frac{1}{4} = (2 \times 4 + 1)/4 = 9/4$. 2) Multiply: $5/3 \times 9/4 = 45/12$. 3) Simplify $45/12$ by dividing numerator and denominator by 3: $45/12 = 15/4$.

Common mistake: Students sometimes multiply whole numbers separately from fraction parts and add, giving $3 \frac{5}{12}$ instead of $15/4$.

12. $3/8$ cup

1) Set up the multiplication: $1/2 \times 3/4$. 2) Multiply numerators: $1 \times 3 = 3$; denominators: $2 \times 4 = 8$. 3) Simplify $3/8$ (already simplest).

Accept if: Answer must show the multiplication expression ($1/2 \times 3/4$) and the simplified result $3/8$ cup.

Common mistake: Students might subtract instead of multiply, giving $1/4$ cup ($3/4 - 1/2$) instead of $3/8$ cup.

13. 2

1) Interpret 'each day for 3 days' as $3 \times 2/3$. 2) Multiply: $3 \times 2/3 = 6/3$. 3) Simplify $6/3 = 2$ kilometers.

Accept if: Answer must show the expression $3 \times 2/3$ and the simplified total 2 km.

Common mistake: Students might multiply numerator and denominator by 3 incorrectly ($2/3 \times 3/3 = 6/9 = 2/3$) instead of 2, giving $2/3$ km.

14. $5/18$ meter

1) Set up multiplication: $1/3 \times 5/6$. 2) Multiply numerators: $1 \times 5 = 5$; denominators: $3 \times 6 = 18$. 3) Simplify $5/18$ (already simplest).

Accept if: Answer must include the expression $1/3 \times 5/6$ and the simplified result $5/18$ meter.

Common mistake: Students might take $1/3$ of the whole meter instead of $5/6$ and write $1/3$ meter instead of $5/18$ meter.

15. 8

1) Find number of students who bring pencils: $2/3 \times 24 = (2/3) \times 24 = 16$ students. 2) Each uses $1/2$ packet: $16 \times 1/2 = 8$ packets. 3) Answer: 8 packets.

Accept if: Answer must show $2/3 \times 24 = 16$ and then $16 \times 1/2 = 8$, concluding 8 packets.

Common mistake: Students might multiply $2/3 \times 1/2$ first (giving $1/3$) then multiply $24 \times 1/3$ to get 8 and claim correct steps but forget to explain order; a more common mistake is multiplying $24 \times 2/3 \times 1/2$ but computing incorrectly and getting 12.

16. $15/8$

1) Convert $2 \frac{1}{2}$ to improper fraction: $(2 \times 2 + 1)/2 = 5/2$. 2) Multiply rate by time: $3/4 \times 5/2 = 15/8$. 3) $15/8$ is simplified; as a mixed number it's $1 \frac{7}{8}$.

Accept if: Answer must show $3/4 \times 5/2 = 15/8$ (or $1 \frac{7}{8}$) with the multiplication expression and simplified result.

Common mistake: Students sometimes multiply $3/4 \times 2.5$ but treat 2.5 as $5/4$ and get $15/16$ instead of correctly converting to $5/2$ and getting $15/8$.

17. $14/5$

1) Multiply: $4 \times 7/10 = 28/10$. 2) Simplify $28/10$ by dividing by 2: $28/10 = 14/5$. 3) As a mixed number, $14/5 = 2 \frac{4}{5}$, but answer given as simplified improper fraction $14/5$.

Accept if: Answer must show the multiplication $4 \times 7/10$ and the simplified result $14/5$ (or $2 \frac{4}{5}$).

Common mistake: Students might multiply $7/10 \times 4$ and forget to simplify, leaving $28/10$, or convert incorrectly and write $2\ 8/10$ instead of simplified $2\ 4/5$ ($14/5$).