Multiplying Fractions by Fractions

Grade 5 Math • Section 5.3

Name: _____	Date: _____	Score: _____ / 17

Quick Review and Helpful Hints

Rule: $\frac{a}{b} \times \frac{c}{d} = \frac{a \times c}{b \times d}$. Multiply numerators; multiply denominators.

Simplify **before** multiplying (cross-cancel common factors) to keep numbers small.

Always write your answer in simplest form. Convert improper fractions to mixed numbers.

Example: Find $\frac{3}{5} \times \frac{2}{9}$.

Cross-cancel: 3 and 9 share a factor of 3. $\frac{\cancel{3}^{1}}{5} \times \frac{2}{\cancel{9}_{3}} = \frac{1 \times 2}{5 \times 3} = \frac{2}{15}$.

Answer: $\frac{2}{15}$

Practice Problems

Multiply. Write your answer in simplest form.

1. $\frac{1}{2} \times \frac{3}{4} =$ _____
2. $\frac{2}{3} \times \frac{5}{8} =$ _____
3. $\frac{3}{7} \times \frac{2}{5} =$ _____
4. $\frac{4}{9} \times \frac{3}{8} =$ _____
5. $\frac{5}{6} \times \frac{3}{10} =$ _____
6. $\frac{7}{12} \times \frac{4}{7} =$ _____
7. $\frac{2}{5} \times \frac{5}{9} =$ _____
8. $\frac{3}{4} \times \frac{8}{15} =$ _____
9. $\frac{5}{8} \times \frac{2}{3} =$ _____
10. $\frac{1}{6} \times \frac{3}{5} =$ _____
11. $\frac{4}{5} \times \frac{5}{12} =$ _____
12. $\frac{9}{10} \times \frac{2}{3} =$ _____
13. $\frac{7}{8} \times \frac{4}{21} =$ _____
14. $\frac{3}{11} \times \frac{11}{12} =$ _____
15. $\frac{6}{7} \times \frac{7}{9} =$ _____

Word Problems

16. A garden covers $\frac{3}{4}$ of a yard. Flowers take up $\frac{2}{5}$ of the garden. What fraction of the whole yard is flowers?

_____

17. Sophia ate $\frac{1}{3}$ of a pizza. Her brother ate $\frac{1}{2}$ of what she left. What fraction of the whole pizza did her brother eat?

_____

Answer Keys

1. $\frac{3}{8}$
2. $\frac{5}{12}$
3. $\frac{6}{35}$
4. $\frac{1}{6}$
5. $\frac{1}{4}$
6. $\frac{1}{3}$
7. $\frac{2}{9}$
8. $\frac{2}{5}$
9. $\frac{5}{12}$
10. $\frac{1}{10}$
11. $\frac{1}{3}$
12. $\frac{3}{5}$
13. $\frac{1}{6}$
14. $\frac{1}{4}$
15. $\frac{2}{3}$
16. $\frac{3}{10}$
17. $\frac{1}{3}$

Step-by-Step Explanations

1. Start with the main idea. For multiplying fractions by fractions, multiply the numerators and denominators, then simplify. The result is $\frac{3}{8}$. Fractions are easier to combine when the pieces are the same size.

2. Keep the work tidy. For multiplying fractions by fractions, multiply the numerators and denominators, then simplify. The result is $\frac{5}{12}$. Always simplify at the end so the answer is clean and useful.

3. Look at what the numbers mean. For multiplying fractions by fractions, multiply the numerators and denominators, then simplify. The result is $\frac{6}{35}$. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

4. Use the setup first. For multiplying fractions by fractions, multiply the numerators and denominators, then simplify. The result is $\frac{1}{6}$. Fractions are easier to combine when the pieces are the same size.

5. Check the size of the answer. For multiplying fractions by fractions, multiply the numerators and denominators, then simplify. The result is $\frac{1}{4}$. Always simplify at the end so the answer is clean and useful.

6. Match the operation to the words. For multiplying fractions by fractions, multiply the numerators and denominators, then simplify. The result is $\frac{1}{3}$. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

7. Write the important values first. For multiplying fractions by fractions, multiply the numerators and denominators, then simplify. The result is $\frac{2}{9}$. Fractions are easier to combine when the pieces are the same size.

8. Follow the pattern carefully. For multiplying fractions by fractions, multiply the numerators and denominators, then simplify. The result is $\frac{2}{5}$. Always simplify at the end so the answer is clean and useful.

9. Start with the main idea. For multiplying fractions by fractions, multiply the numerators and denominators, then simplify. The result is $\frac{5}{12}$. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

10. Keep the work tidy. For multiplying fractions by fractions, multiply the numerators and denominators, then simplify. The result is $\frac{1}{10}$. Fractions are easier to combine when the pieces are the same size.

11. Look at what the numbers mean. For multiplying fractions by fractions, multiply the numerators and denominators, then simplify. The result is $\frac{1}{3}$. Always simplify at the end so the answer is clean and useful.

12. Use the setup first. For multiplying fractions by fractions, multiply the numerators and denominators, then simplify. The result is $\frac{3}{5}$. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

13. Check the size of the answer. For multiplying fractions by fractions, multiply the numerators and denominators, then simplify. The result is $\frac{1}{6}$. Fractions are easier to combine when the pieces are the same size.

14. Match the operation to the words. For multiplying fractions by fractions, multiply the numerators and denominators, then simplify. The result is $\frac{1}{4}$. Always simplify at the end so the answer is clean and useful.

15. Write the important values first. For multiplying fractions by fractions, multiply the numerators and denominators, then simplify. The result is $\frac{2}{3}$. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

16. Follow the pattern carefully. For multiplying fractions by fractions, flowers cover $\frac{2}{5}$ of $\frac{3}{4}$: $\frac{3}{4} \times \frac{2}{5} = \frac{3}{10}$. Fractions are easier to combine when the pieces are the same size.

17. Start with the main idea. For multiplying fractions by fractions, after Sophia eats $\frac{1}{3}$, $\frac{2}{3}$ remains; half of that is $\frac{1}{2} \times \frac{2}{3} = \frac{1}{3}$. Always simplify at the end so the answer is clean and useful.

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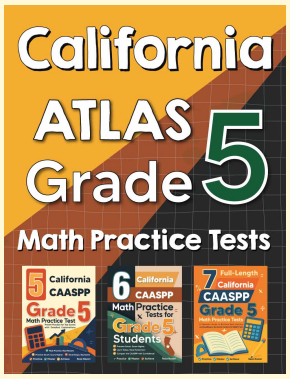

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