Multiplying Mixed Numbers

Grade 5 Math • Section 5.4

Name: _____	Date: _____	Score: _____ / 14

Quick Review and Helpful Hints

Steps: (1) Convert each mixed number to an improper fraction. (2) Multiply the fractions. (3) Simplify and convert back.

To convert: $a\frac{b}{c} = \frac{a \times c + b}{c}$. Example: $2\frac{3}{4} = \frac{11}{4}$.

Cross-cancel common factors before multiplying.

Example: Find $1\frac{2}{3} \times 2\frac{1}{4}$.

Convert: $1\frac{2}{3} = \frac{5}{3}$ and $2\frac{1}{4} = \frac{9}{4}$. Cross-cancel: $\frac{5}{\cancel{3}_1} \times \frac{\cancel{9}^3}{4} = \frac{5 \times 3}{1 \times 4} = \frac{15}{4} = 3\frac{3}{4}$.

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

Practice Problems

Multiply. Write your answer in simplest form.

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

Word Problems

13. A rectangular garden is $3\frac{1}{2}$ meters long and $2\frac{1}{4}$ meters wide. What is the area of the garden?

_____

14. A recipe serves 4 people and uses $1\frac{2}{3}$ cups of rice. How much rice is needed to serve 6 people? (Hint: find $1\frac{1}{2}$ times the recipe.)

_____

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Answer Keys

1. $\boxed{1}$
2. $\boxed{1\frac{4}{5}}$
3. $\boxed{4}$
4. $\boxed{4}$
5. $\boxed{1}$
6. $\boxed{4}$
7. $\boxed{1}$
8. $\boxed{7\frac{4}{5}}$
9. $\boxed{1\frac{2}{3}}$
10. $\boxed{8\frac{2}{5}}$
11. $\boxed{3}$
12. $\boxed{3\frac{1}{6}}$
13. $\boxed{7\frac{7}{8}\ \text{m}^2}$
14. $\boxed{2\frac{1}{2}\ \text{cups}}$

Step-by-Step Explanations

1. Start with the main idea. For multiplying mixed numbers, multiply the numerators and denominators, then simplify. The result is 1. Fractions are easier to combine when the pieces are the same size.

2. Keep the work tidy. For multiplying mixed numbers, multiply the numerators and denominators, then simplify. The result is $1\frac{4}{5}$. Always simplify at the end so the answer is clean and useful.

3. Look at what the numbers mean. For multiplying mixed numbers, multiply the numerators and denominators, then simplify. The result is 4. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

4. Use the setup first. For multiplying mixed numbers, multiply the numerators and denominators, then simplify. The result is 4. Fractions are easier to combine when the pieces are the same size.

5. Check the size of the answer. For multiplying mixed numbers, multiply the numerators and denominators, then simplify. The result is 1. Always simplify at the end so the answer is clean and useful.

6. Match the operation to the words. For multiplying mixed numbers, multiply the numerators and denominators, then simplify. The result is 4. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

7. Write the important values first. For multiplying mixed numbers, multiply the numerators and denominators, then simplify. The result is 1. Fractions are easier to combine when the pieces are the same size.

8. Follow the pattern carefully. For multiplying mixed numbers, multiply the numerators and denominators, then simplify. The result is $7\frac{4}{5}$. Always simplify at the end so the answer is clean and useful.

9. Start with the main idea. For multiplying mixed numbers, multiply the numerators and denominators, then simplify. The result is $1\frac{2}{3}$. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

10. Keep the work tidy. For multiplying mixed numbers, multiply the numerators and denominators, then simplify. The result is $8\frac{2}{5}$. Fractions are easier to combine when the pieces are the same size.

11. Look at what the numbers mean. For multiplying mixed numbers, multiply the numerators and denominators, then simplify. The result is 3. Always simplify at the end so the answer is clean and useful.

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

13. Check the size of the answer. For multiplying mixed numbers, area is length times width: $3\frac{1}{2} \times 2\frac{1}{4} = \frac{7}{2} \times \frac{9}{4} = \frac{63}{8} = 7\frac{7}{8}$. Fractions are easier to combine when the pieces are the same size.

14. Match the operation to the words. For multiplying mixed numbers, serving 6 people is $1\frac{1}{2}$ times the recipe, so $1\frac{2}{3} \times 1\frac{1}{2} = \frac{5}{3} \times \frac{3}{2} = \frac{5}{2}$. Always simplify at the end so the answer is clean and useful.

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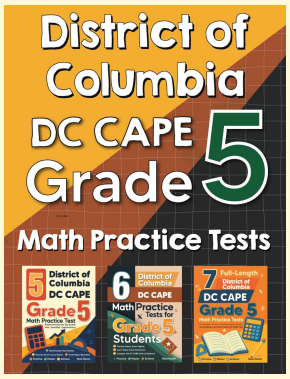

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