Dividing Unit Fractions by Whole Numbers

Grade 5 Math • Section 6.1

Name: _____	Date: _____	Score: _____ / 17

Quick Review and Helpful Hints

Rule: $\frac{1}{b} \div c = \frac{1}{b \times c}$. Dividing a unit fraction by a whole number makes the pieces **smaller**.

Think of it as splitting each $\frac{1}{b}$ piece into c equal parts. $\frac{1}{3} \div 4$ means "split a third into 4 equal pieces" $= \frac{1}{12}$.

Do **not** flip the fraction that is being divided.

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

Imagine splitting a $\frac{1}{4}$ piece of a pie into 3 equal parts. Each part is $\frac{1}{4 \times 3} = \frac{1}{12}$ of the whole pie.

Answer: $\frac{1}{12}$

Practice Problems

Divide. Write your answer in simplest form.

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

Word Problems

16. A pizza has $\frac{1}{4}$ left. Three friends share it equally. What fraction of the whole pizza does each friend get?

_____

17. A $\frac{1}{2}$-pound bag of trail mix is split equally among 6 hikers. How much does each hiker get?

_____

Answer Keys

1. $\frac{1}{6}$
2. $\frac{1}{15}$
3. $\frac{1}{8}$
4. $\frac{1}{20}$
5. $\frac{1}{18}$
6. $\frac{1}{16}$
7. $\frac{1}{21}$
8. $\frac{1}{10}$
9. $\frac{1}{40}$
10. $\frac{1}{24}$
11. $\frac{1}{30}$
12. $\frac{1}{40}$
13. $\frac{1}{27}$
14. $\frac{1}{14}$
15. $\frac{1}{30}$
16. $\frac{1}{12}$
17. $\frac{1}{12}$ lb

Step-by-Step Explanations

1. Start with the main idea. For dividing unit fractions by whole numbers, divide by multiplying by the reciprocal, then simplify. The result is $\frac{1}{6}$. Fractions are easier to combine when the pieces are the same size.

2. Keep the work tidy. For dividing unit fractions by whole numbers, divide by multiplying by the reciprocal, then simplify. The result is $\frac{1}{15}$. Always simplify at the end so the answer is clean and useful.

3. Look at what the numbers mean. For dividing unit fractions by whole numbers, divide by multiplying by the reciprocal, then simplify. The result is $\frac{1}{8}$. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

4. Use the setup first. For dividing unit fractions by whole numbers, divide by multiplying by the reciprocal, then simplify. The result is $\frac{1}{20}$. Fractions are easier to combine when the pieces are the same size.

5. Check the size of the answer. For dividing unit fractions by whole numbers, divide by multiplying by the reciprocal, then simplify. The result is $\frac{1}{18}$. Always simplify at the end so the answer is clean and useful.

6. Match the operation to the words. For dividing unit fractions by whole numbers, divide by multiplying by the reciprocal, then simplify. The result is $\frac{1}{16}$. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

7. Write the important values first. For dividing unit fractions by whole numbers, divide by multiplying by the reciprocal, then simplify. The result is $\frac{1}{21}$. Fractions are easier to combine when the pieces are the same size.

8. Follow the pattern carefully. For dividing unit fractions by whole numbers, divide by multiplying by the reciprocal, then simplify. The result is $\frac{1}{10}$. Always simplify at the end so the answer is clean and useful.

9. Start with the main idea. For dividing unit fractions by whole numbers, divide by multiplying by the reciprocal, then simplify. The result is $\frac{1}{40}$. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

10. Keep the work tidy. For dividing unit fractions by whole numbers, divide by multiplying by the reciprocal, then simplify. The result is $\frac{1}{24}$. Fractions are easier to combine when the pieces are the same size.

11. Look at what the numbers mean. For dividing unit fractions by whole numbers, divide by multiplying by the reciprocal, then simplify. The result is $\frac{1}{30}$. Always simplify at the end so the answer is clean and useful.

12. Use the setup first. For dividing unit fractions by whole numbers, divide by multiplying by the reciprocal, then simplify. The result is $\frac{1}{40}$. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

13. Check the size of the answer. For dividing unit fractions by whole numbers, divide by multiplying by the reciprocal, then simplify. The result is $\frac{1}{27}$. Fractions are easier to combine when the pieces are the same size.

14. Match the operation to the words. For dividing unit fractions by whole numbers, divide by multiplying by the reciprocal, then simplify. The result is $\frac{1}{14}$. Always simplify at the end so the answer is clean and useful.

15. Write the important values first. For dividing unit fractions by whole numbers, divide by multiplying by the reciprocal, then simplify. The result is $\frac{1}{30}$. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

16. Follow the pattern carefully. For dividing unit fractions by whole numbers, share $\frac{1}{4}$ equally among 3: $\frac{1}{4} \div 3 = \frac{1}{12}$. Fractions are easier to combine when the pieces are the same size.

17. Start with the main idea. For dividing unit fractions by whole numbers, $\frac{1}{2} \div 6 = \frac{1}{12}$ pound per hiker. Always simplify at the end so the answer is clean and useful.

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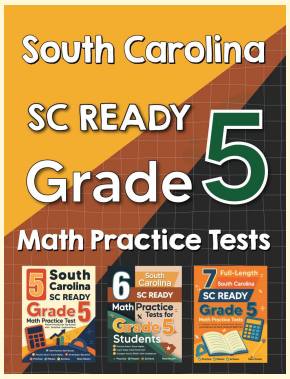

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