Dividing Fractions Worksheets Questions and Answers PDF

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Part 1: Building a Foundation

What is the reciprocal of the fraction \(\frac{3}{4}\)?

Hint: Think about flipping the numerator and denominator.

- ◯ **\(\frac{4}{3}\) ✓**
- ◯ \(\frac{3}{4}\)
- ◯ \(\frac{1}{4}\)
- ◯ \(\frac{1}{3}\)

> The reciprocal of \(\frac{3}{4}\) is \(\frac{4}{3}\).

Which of the following are steps in dividing fractions?

Hint: Consider the process of dividing fractions step by step.

- ☐ **Find the reciprocal of the first fraction. ✓**
- ☐ **Multiply the first fraction by the reciprocal of the second fraction. ✓**
- ☐ **Convert mixed numbers to improper fractions. ✓**
- ☐ Subtract the numerators.

> The correct steps include finding the reciprocal and multiplying.

Explain in your own words why we use the reciprocal of the second fraction when dividing fractions.

Hint: Think about how division is related to multiplication.

We use the reciprocal to convert the division of fractions into multiplication, which is easier to compute.

List the terms used to describe the top and bottom parts of a fraction.

Hint: Think about the numerator and denominator.

1. Top part:

Numerator

2. Bottom part:

Denominator

The top part of a fraction is called the numerator, and the bottom part is called the denominator.

What is the first step when dividing mixed numbers?

Hint: Consider how you would convert mixed numbers before dividing.

- ◯ Simplify the fractions
- ◯ **Convert to improper fractions ✓**
- ◯ Find the reciprocal
- ◯ Multiply the fractions

The first step is to convert mixed numbers to improper fractions.

Part 2: comprehension and Application

If you divide \(\frac{5}{6}\) by \(\frac{2}{3}\), what is the reciprocal of the divisor?

Hint: Remember that the divisor is the second fraction.

- ◯ **\(\frac{3}{2}\) ✓**
- ◯ \(\frac{2}{3}\)
- ◯ \(\frac{5}{6}\)
- ◯ \(\frac{6}{5}\)

> The reciprocal of the divisor \(\frac{2}{3}\) is \(\frac{3}{2}\).

Which of the following statements are true about dividing fractions?

Hint: Consider the rules and properties of division.

- ☐ **The reciprocal is only used for the divisor. ✓**
- ☐ **You always multiply after finding the reciprocal. ✓**
- ☐ **The final answer should be simplified. ✓**
- ☐ You can divide by zero.

> The true statements include that the reciprocal is used for the divisor and that the final answer should be simplified.

Solve the following problem: A recipe requires \(\frac{3}{4}\) cup of sugar. If you only have a \(\frac{1}{2}\) cup measuring tool, how many times do you need to fill it to get the required amount?

Hint: Think about how many halves fit into three-quarters.

> **You need to fill the \(\frac{1}{2}\) cup one and a half times to get \(\frac{3}{4}\) cup of sugar.**

What is the result of dividing \(\frac{7}{8}\) by \(\frac{1}{4}\)?

Hint: Remember to multiply by the reciprocal of the second fraction.

- ○ \(\frac{7}{32}\)
- ○ \(\frac{28}{8}\)
- ○ **\(\frac{7}{2}\) ✓**
- ○ \(\frac{8}{7}\)

> The result of dividing \(\frac{7}{8}\) by \(\frac{1}{4}\) is \(\frac{7}{2}\).

Part 3: Analysis, Evaluation, and Creation

Which fraction division problem results in a whole number?

Hint: Consider the results of each division problem.

- ○ **\(\frac{8}{4} \div \frac{1}{2}\) ✓**
- ○ \(\frac{9}{3} \div \frac{3}{9}\)
- ○ \(\frac{6}{2} \div \frac{2}{3}\)
- ○ \(\frac{5}{5} \div \frac{1}{1}\)

> The problem \(\frac{8}{4} \div \frac{1}{2}\) results in a whole number.

Analyze the following statements and identify which are correct regarding simplification after division:

Hint: Think about the importance of simplifying fractions.

- ☐ **The result should always be in simplest form. ✓**
- ☐ Simplification is optional if the fraction is improper.
- ☐ Simplification is necessary only if the numerator is larger than the denominator.
- ☐ **Simplification helps in comparing the results with other fractions. ✓**

> The correct statements include that the result should always be in simplest form and that simplification helps in comparing results.

Evaluate the following scenario: You have \(\frac{3}{5}\) of a pizza and want to share it equally among \(\frac{1}{4}\) of your friends. How much pizza does each friend get? Show your work.

Hint: Think about how to divide the pizza among your friends.

Each friend would get $\frac{3}{5} \div \frac{1}{4} = \frac{3}{5} \times 4 = \frac{12}{5}$ or 2 and $\frac{2}{5}$ of a pizza.

Design a short instructional guide for dividing fractions. Include the key steps and a simple example.

Hint: Think about the process of dividing fractions step by step.

1. Step 1:

Find the reciprocal of the second fraction.

2. Step 2:

Multiply the first fraction by the reciprocal.

3. Step 3:

Simplify the result if necessary.

4. Example:

Dividing $\frac{1}{2}$ by $\frac{1}{4}$ results in $\frac{1}{2} \times 4 = 2$.

The guide should include finding the reciprocal, multiplying, and simplifying the result.

Create a real-world problem that involves dividing fractions and provide a step-by-step solution.

Hint: Think about a scenario where you need to divide something into parts.

The problem should involve a real-life context and demonstrate the division of fractions.