Dividing Fractions By Fractions Worksheet

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Part 1: Building a Foundation

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

Hint: Recall the definition of a reciprocal.

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

Which of the following are steps in dividing fractions?

Hint: Think about the process involved in fraction division.

- ☐ Multiply the numerators
- ☐ Find the reciprocal of the divisor
- ☐ Subtract the numerators
- ☐ Simplify the result

Explain why we use the reciprocal when dividing fractions.

Hint: Consider the relationship between division and multiplication.

List the two main components of a fraction.

Hint: Think about the parts that make up a fraction.

1. What are the two components?

If you divide \(\frac{5}{6}\) by \(\frac{2}{3}\), what is the first step?

Hint: Consider what you need to do with the divisor.

- ◯ Add the fractions
- ◯ Find the reciprocal of \(\frac{5}{6}\)
- ◯ Find the reciprocal of \(\frac{2}{3}\)
- ◯ Subtract the fractions

Part 2: Application and Analysis

If a recipe requires \(\frac{3}{4}\) cup of sugar and you want to make half the recipe, how much sugar do you need?

Hint: Think about how to halve a fraction.

- ◯ \(\frac{3}{8}\)
- ◯ \(\frac{1}{2}\)
- ◯ \(\frac{1}{4}\)
- ◯ \(\frac{3}{2}\)

You have \(\frac{5}{6}\) of a pizza and want to share it equally among 3 friends. How much pizza does each friend get?

Hint: Consider how to divide a fraction by a whole number.

- ☐ \(\frac{5}{18}\)
- ☐ \(\frac{5}{9}\)
- ☐ \(\frac{1}{2}\)
- ☐ \(\frac{1}{3}\)

A tank is \(\frac{2}{3}\) full of water. If you use \(\frac{1}{4}\) of the water, how much water is left in the tank? Show your calculations.

Hint: Calculate the amount of water used and subtract it from the total.

What is the result of dividing $\frac{9}{10}$ by $\frac{3}{5}$?

Hint: Remember to multiply by the reciprocal of the divisor.

- ◯ $\frac{3}{2}$
- ◯ $\frac{5}{6}$
- ◯ $\frac{1}{2}$
- ◯ $\frac{3}{10}$

Which of the following statements are true about dividing fractions?

Hint: Consider the properties of division and multiplication.

- ☐ The result is always a smaller fraction
- ☐ You multiply by the reciprocal of the divisor
- ☐ The result can be greater than 1
- ☐ Division of fractions is the same as subtraction

Part 3: Evaluation and Creation

Which scenario best represents dividing fractions in a real-world context?

Hint: Think about practical applications of dividing fractions.

- ◯ Splitting a cake into equal parts
- ◯ Calculating the area of a rectangle
- ◯ Determining how many $\frac{1}{3}$ cup servings are in $\frac{2}{3}$ cup of yogurt
- ◯ Adding ingredients to a recipe

Evaluate the following statements about dividing fractions and select those that are correct:

Hint: Consider the properties of division and multiplication.

- ☐ Dividing by a fraction is the same as multiplying by its reciprocal

- [ ] The quotient of two fractions is always a fraction
- [ ] The division of fractions can result in a whole number
- [ ] The reciprocal of a fraction is always greater than the original fraction

Create a real-world problem involving the division of fractions and provide a solution to your problem.

Hint: Think about a scenario where you need to divide a quantity.

Design a step-by-step guide for a classmate who is struggling with dividing fractions. Include at least three key tips.

Hint: Think about the common challenges faced when dividing fractions.

1. What is the first key tip?

2. What is the second key tip?

3. What is the third key tip?