

# Multiplying Dividing Fractions Worksheet Answer Key PDF

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## Part 1: Building a Foundation

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**What is the first step in multiplying two fractions?**

undefined. Add the numerators

**undefined. Multiply the numerators ✓**

undefined. Subtract the denominators

undefined. Divide the numerators

The first step in multiplying two fractions is to multiply the numerators.

**Which of the following are steps in dividing fractions? (Select all that apply)**

**undefined. Find the reciprocal of the divisor ✓**

undefined. Multiply the numerators

undefined. Subtract the numerators

**undefined. Multiply by the reciprocal ✓**

The steps in dividing fractions include finding the reciprocal of the divisor and multiplying by the reciprocal.

**Explain what it means to simplify a fraction and why it is important.**

**Simplifying a fraction means reducing it to its lowest terms, which makes it easier to understand and work with.**

**List the steps to convert a mixed number into an improper fraction.**

1. Step 1: Multiply the whole number by the denominator.

**Multiply.**

2. Step 2: Add the numerator to the result.

**Add.**

3. Step 3: Place the result over the original denominator.

**Divide.**

To convert a mixed number to an improper fraction, multiply the whole number by the denominator, add the numerator, and place the result over the original denominator.

## Part 2: comprehension and Application

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**When simplifying the fraction  $18/24$ , what is the greatest common divisor (GCD) used?**

undefined. 2

undefined. 3

**undefined. 6 ✓**

undefined. 9

The greatest common divisor of 18 and 24 is 6.

**Which of the following fractions are equivalent to  $3/4$ ? (Select all that apply)**

**undefined.  $6/8$  ✓**

**undefined.  $9/12$  ✓**

**undefined.  $12/16$  ✓**

undefined.  $15/20$

The fractions equivalent to  $3/4$  are  $6/8$ ,  $9/12$ , and  $12/16$ .

**Describe the process of cross-cancellation and how it can simplify the multiplication of fractions.**

**Cross-cancellation involves reducing fractions before multiplying, which can simplify calculations and lead to smaller numbers.**

**What is the product of  $(3/5) * (10/12)$  after simplification?**

**undefined.  $1/2$  ✓**

undefined.  $5/8$

undefined.  $1/4$

undefined.  $1/3$

The product of  $(\frac{3}{5}) * (\frac{10}{12})$  after simplification is  $\frac{1}{2}$ .

**A recipe requires  $\frac{2}{3}$  cup of sugar. If you want to make half of the recipe, how much sugar will you need? Show your calculations.**

**To find half of  $\frac{2}{3}$  cup of sugar, multiply  $\frac{2}{3}$  by  $\frac{1}{2}$ , which equals  $\frac{1}{3}$  cup.**

### Part 3: Analysis, Evaluation, and Creation

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**Which of the following statements correctly describes the relationship between a fraction and its reciprocal?**

undefined. A fraction and its reciprocal have the same value.

**undefined. A fraction and its reciprocal multiply to 1. ✓**

undefined. A fraction and its reciprocal add to 1.

undefined. A fraction and its reciprocal are always improper fractions.

A fraction and its reciprocal multiply to 1.

**Analyze the fractions  $\frac{5}{6}$  and  $\frac{10}{12}$ . Which statements are true? (Select all that apply)**

**undefined. They are equivalent fractions. ✓**

**undefined.  $\frac{5}{6}$  is in simplest form. ✓**

**undefined.  $\frac{10}{12}$  can be simplified to  $\frac{5}{6}$ . ✓**

undefined. Both fractions have the same denominator.

The statements that are true include that they are equivalent fractions,  $\frac{5}{6}$  is in simplest form, and  $\frac{10}{12}$  can be simplified to  $\frac{5}{6}$ .

**Given the fractions  $\frac{3}{4}$  and  $\frac{9}{12}$ , analyze their relationship and explain whether they are equivalent or not. Provide your reasoning.**

**The fractions  $\frac{3}{4}$  and  $\frac{9}{12}$  are equivalent because when you simplify  $\frac{9}{12}$ , you get  $\frac{3}{4}$ .**

**If you multiply a fraction by its reciprocal, what is the result?**

undefined. 0

**undefined. 1 ✓**

undefined. The original fraction

undefined. The reciprocal

The result of multiplying a fraction by its reciprocal is 1.

**Evaluate the following statements about multiplying fractions. Which are true? (Select all that apply)**

undefined. The product of two fractions is always less than either fraction.

**undefined. The product of two fractions can be greater than one of the fractions. ✓**

**undefined. Multiplying by a fraction less than 1 reduces the value. ✓**

**undefined. Multiplying by a fraction greater than 1 increases the value. ✓**

The true statements include that the product of two fractions can be greater than one of the fractions and that multiplying by a fraction less than 1 reduces the value.

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

**An example could be dividing a recipe or a quantity of material into smaller portions, showing the calculations involved.**