

Fraction Times Fraction Worksheet Answer Key PDF

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Part 1: Building a Foundation

What is the result of multiplying the fractions $\frac{2}{3}$ and $\frac{3}{4}$?

undefined. $\frac{5}{7}$

undefined. $\frac{6}{12}$

undefined. $\frac{1}{2}$ ✓

undefined. $\frac{1}{3}$

The correct answer is $\frac{1}{2}$.

Which of the following are types of fractions? (Select all that apply)

undefined. Proper Fractions ✓

undefined. Decimal Fractions

undefined. Improper Fractions ✓

undefined. Mixed Numbers ✓

Proper fractions, improper fractions, and mixed numbers are all types of fractions.

Explain in your own words how to multiply two fractions together. Include an example in your explanation.

To multiply two fractions, multiply the numerators together and the denominators together. For example, $\frac{2}{3} \times \frac{3}{4} = \frac{6}{12}$.

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

1. Step 1

Multiply the whole number by the denominator.

2. Step 2

Add the numerator to the result from Step 1.

3. Step 3

Place the result over the original denominator.

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

What is the first step in multiplying mixed numbers?

undefined. Add the fractions

undefined. Convert them to improper fractions ✓

undefined. Simplify the fractions

undefined. Multiply the numerators

The first step is to convert them to improper 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?

undefined. $\frac{3}{8}$ ✓

undefined. $\frac{1}{2}$

undefined. $\frac{1}{4}$

undefined. $\frac{3}{2}$

You need $\frac{3}{8}$ cup of sugar.

You have $\frac{2}{3}$ of a pizza and you eat $\frac{1}{2}$ of what you have. Which of the following represent the amount of pizza you ate? (Select all that apply)

undefined. $\frac{1}{3}$ ✓

undefined. $\frac{1}{6}$ ✓

undefined. $\frac{2}{6}$ ✓

undefined. $\frac{1}{2}$

You ate $\frac{1}{3}$ and $\frac{2}{6}$ of the pizza.

A garden is $\frac{3}{5}$ of an acre in size. If you plant flowers in $\frac{2}{3}$ of the garden, how much of the acre is used for flowers? Show your calculations.

You would use $\frac{2}{3} \times \frac{3}{5} = \frac{2}{5}$ of an acre for flowers.

Which of the following best describes the relationship between the numerators and denominators when multiplying fractions?

undefined. Numerators are added, and denominators are multiplied.

undefined. Numerators and denominators are both added.

undefined. Numerators are multiplied, and denominators are added.

undefined. Numerators and denominators are both multiplied. ✓

Numerators are multiplied, and denominators are both multiplied.

When simplifying the product of $\frac{6}{8}$ and $\frac{4}{9}$, which of the following steps are necessary? (Select all that apply)

undefined. Cross-cancel common factors ✓

undefined. Multiply numerators and denominators ✓

undefined. Convert to mixed numbers

undefined. Simplify the resulting fraction ✓

You should cross-cancel common factors, multiply numerators and denominators, and simplify the resulting fraction.

Part 3: Evaluation and Creation

Which of the following is the most efficient method to simplify the product of $\frac{8}{12}$ and $\frac{3}{4}$?

undefined. Multiply directly and simplify the result

undefined. Simplify before multiplying ✓

undefined. Convert to decimals and multiply

undefined. Use estimation to find an approximate answer

The most efficient method is to simplify before multiplying.

Evaluate the following scenarios and select those where multiplying fractions is necessary. (Select all that apply)

undefined. Dividing a pizza into equal parts

undefined. Calculating the area of a rectangle with fractional dimensions ✓

undefined. Adding fractions with different denominators

undefined. Determining the amount of fabric needed for a quilt ✓

Calculating the area of a rectangle with fractional dimensions and determining the amount of fabric needed for a quilt require multiplying fractions.

Create a real-world problem involving the multiplication of fractions and provide a detailed solution.

An example could be calculating the amount of paint needed for a wall that is $\frac{2}{3}$ of a room's total area.

Propose two different methods to verify the result of multiplying $\frac{5}{7}$ by $\frac{2}{3}$ and explain each method briefly.

1. Method 1

Multiply directly: $\frac{5}{7} \times \frac{2}{3} = \frac{10}{21}$.

2. Method 2

Use an area model to visualize the multiplication.

One method is to multiply directly and simplify, while another is to use a visual model like area models.