

Module 4 Operations With Fractions Quiz B Answers Questions and Answers PDF

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What is the reciprocal of $5/7$?

- $7/5$ ✓
- $5/7$
- $1/5$
- $1/7$

The reciprocal of a fraction is obtained by flipping the numerator and denominator. Therefore, the reciprocal of $5/7$ is $7/5$.

Which of the following are equivalent to the fraction $3/4$?

- $6/8$ ✓
- $9/12$ ✓
- $12/16$ ✓
- $15/20$

The fraction $3/4$ is equivalent to any fraction that can be simplified to the same value, such as $6/8$ or $9/12$. Additionally, it can be expressed as a decimal (0.75) or a percentage (75%).

Explain the process of converting an improper fraction to a mixed number. Provide an example with your explanation.

To convert the improper fraction $\frac{7}{4}$ to a mixed number, divide 7 by 4, which equals 1 with a remainder of 3. Therefore, the mixed number is $1\frac{3}{4}$.

What is the least common denominator of $\frac{1}{4}$ and $\frac{1}{6}$?

- 12 ✓
- 24
- 6
- 8

The least common denominator (LCD) of two fractions is the smallest multiple that both denominators share. For $\frac{1}{4}$ and $\frac{1}{6}$, the LCD is 12.

Which of the following operations require finding a common denominator?

- Adding fractions ✓
- Subtracting fractions ✓
- Multiplying fractions
- Dividing fractions

Finding a common denominator is necessary when adding or subtracting fractions with different denominators to ensure they can be combined accurately.

Describe how you would solve a word problem involving the division of fractions. Use an example to illustrate your explanation.

To solve a word problem involving the division of fractions, first convert the division into multiplication by taking the reciprocal of the second fraction. For example, if the problem is 'How many $\frac{1}{4}$ cups are in 2 cups?', you would calculate $2 \div (\frac{1}{4})$ which is the same as $2 \times (\frac{4}{1}) = 8$. Thus, there are 8 quarter cups in 2 cups.

What is the product of $\frac{2}{3}$ and $\frac{3}{4}$?

- 1/2
- 1/4
- 1
- 3/8

To find the product of two fractions, multiply the numerators together and the denominators together. Therefore, the product of $\frac{2}{3}$ and $\frac{3}{4}$ is $\frac{6}{12}$, which simplifies to $\frac{1}{2}$.

Which of the following fractions are greater than $\frac{1}{2}$?

- $\frac{3}{5}$ ✓
- $\frac{2}{3}$ ✓
- $\frac{1}{3}$
- $\frac{5}{10}$

Fractions greater than $\frac{1}{2}$ are those that have a numerator larger than half of their denominator. For example, $\frac{3}{5}$ and $\frac{4}{7}$ are both greater than $\frac{1}{2}$.

Explain the relationship between fractions and decimals. How would you convert a fraction to a decimal? Provide an example.

To convert a fraction to a decimal, divide the numerator by the denominator. For example, to convert the fraction $\frac{3}{4}$ to a decimal, you would calculate $3 \div 4$, which equals 0.75.

Which fraction is equivalent to 0.75?

- $\frac{3}{4}$ ✓
- $\frac{1}{2}$
- $\frac{2}{3}$
- $\frac{5}{8}$

The fraction equivalent to 0.75 is $\frac{3}{4}$. This is because 0.75 can be expressed as $\frac{75}{100}$, which simplifies to $\frac{3}{4}$.

Which of the following are correct steps to convert $\frac{7}{4}$ into a mixed number?

- Divide 7 by 4 ✓
- The quotient is the whole number part ✓
- The remainder is the new numerator ✓
- Keep the original denominator ✓

To convert $\frac{7}{4}$ into a mixed number, divide 7 by 4 to get 1 with a remainder of 3, resulting in the mixed number $1\frac{3}{4}$.

Discuss the importance of simplifying fractions in mathematical operations. Provide examples to support your explanation.

For example, simplifying the fraction $\frac{8}{12}$ to $\frac{2}{3}$ before adding it to another fraction can make the addition process simpler and reduce the chance of errors.

What is the result of subtracting $\frac{5}{8}$ from $\frac{3}{4}$?

- $\frac{1}{8}$ ✓
- $\frac{1}{4}$
- $\frac{3}{8}$
- $\frac{1}{2}$

To subtract $\frac{5}{8}$ from $\frac{3}{4}$, first convert $\frac{3}{4}$ to an equivalent fraction with a denominator of 8, which is $\frac{6}{8}$. Then, subtract $\frac{5}{8}$ from $\frac{6}{8}$ to get $\frac{1}{8}$.

Which of the following are correct when dividing fractions?

- Multiply by the reciprocal of the divisor ✓
- Find a common denominator
- Invert the second fraction ✓
- Simplify the result ✓

When dividing fractions, you multiply the first fraction by the reciprocal of the second fraction. This means you flip the second fraction and then multiply the numerators and denominators accordingly.

How can you use a number line to compare fractions? Provide a detailed explanation with an example.

To compare fractions using a number line, first identify a common denominator if necessary, then mark each fraction on the line according to its value. For example, to compare $\frac{1}{4}$ and $\frac{3}{8}$, convert $\frac{1}{4}$ to $\frac{2}{8}$, and then place both fractions on the number line to see that $\frac{3}{8}$ is greater than $\frac{1}{4}$.

What is the decimal equivalent of $\frac{1}{5}$?

- 0.2 ✓
- 0.5
- 0.25
- 0.75

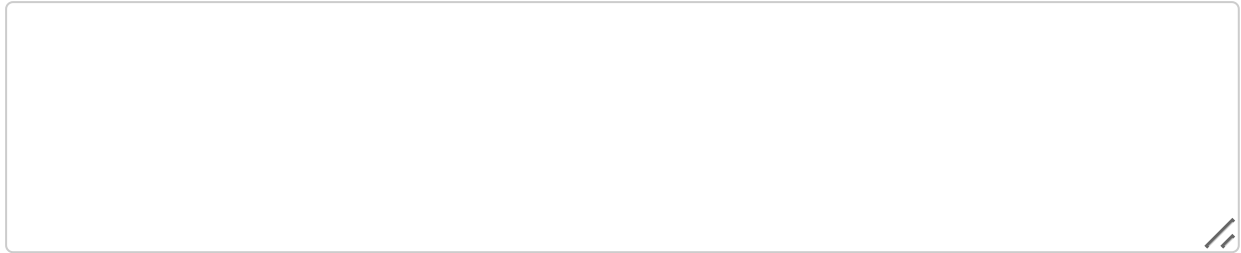
The decimal equivalent of the fraction $\frac{1}{5}$ is 0.2. This means that when you divide 1 by 5, the result is 0.2.

Which of the following fractions are in simplest form?

- $\frac{4}{8}$
- $\frac{3}{5}$ ✓
- $\frac{10}{15}$
- $\frac{7}{9}$ ✓

To determine if a fraction is in simplest form, check if the numerator and denominator have any common factors other than 1. If they do not, the fraction is in simplest form.

Describe a strategy for solving a complex fraction problem involving multiple operations. Use an example to illustrate your strategy.



To solve the complex fraction $(\frac{1}{2} + \frac{1}{3}) / (\frac{1}{4} - \frac{1}{6})$, first simplify the numerator: $\frac{1}{2} + \frac{1}{3} = \frac{3}{6} + \frac{2}{6} = \frac{5}{6}$. Then simplify the denominator: $\frac{1}{4} - \frac{1}{6} = \frac{3}{12} - \frac{2}{12} = \frac{1}{12}$. Now, divide the simplified numerator by the simplified denominator: $(\frac{5}{6}) \div (\frac{1}{12}) = (\frac{5}{6}) * (\frac{12}{1}) = 10$. The final answer is 10.

What is the sum of $\frac{1}{4}$ and $\frac{2}{5}$?

- $\frac{9}{20}$
- $\frac{7}{20}$
- $\frac{13}{20}$ ✓
- $\frac{3}{5}$

To find the sum of $\frac{1}{4}$ and $\frac{2}{5}$, we need a common denominator, which is 20. Converting both fractions gives us $\frac{5}{20}$ and $\frac{8}{20}$, and their sum is $\frac{13}{20}$.

Which of the following are true about mixed numbers?

- They can be converted to improper fractions ✓
- They are always greater than 1
- They consist of a whole number and a fraction ✓
- They can be used in multiplication without conversion

Mixed numbers consist of a whole number and a proper fraction, and they can be converted to improper fractions for easier calculations. They are commonly used in everyday situations, such as cooking or measuring.