



Introduction

Welcome to this worksheet on applying fraction operations in real-world scenarios. This worksheet is designed for 14-year-old students and aims to provide a comprehensive review of fraction operations, including addition, subtraction, multiplication, and division.

Read the introduction carefully and answer the following questions:

1. What is the main topic of this worksheet?

2. What age group is this worksheet designed for?

Section 1: Understanding Fractions

Complete the following tasks:

1. Define what a fraction is and provide an example.

2. Simplify the following fractions:

- $\frac{6}{8}$

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- $\frac{4}{12}$

- $\frac{9}{15}$

3. Compare the following fractions:

- $\frac{1}{2}$ and $\frac{3}{4}$

- $\frac{2}{3}$ and $\frac{3}{5}$

- $\frac{1}{4}$ and $\frac{2}{8}$

Section 2: Adding and Subtracting Fractions

Complete the following tasks:

1. Add the following fractions:

◦ $\frac{1}{4} + \frac{1}{4}$

◦ $\frac{2}{3} + \frac{1}{3}$

◦ $\frac{3}{8} + \frac{1}{8}$

2. Subtract the following fractions:

◦ $\frac{3}{4} - \frac{1}{4}$

◦ $\frac{2}{3} - \frac{1}{3}$

◦ $\frac{5}{6} - \frac{2}{6}$

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3. Solve the following word problems:

- Tom has $\frac{1}{2}$ of a pizza and his friend gives him $\frac{1}{4}$ of a pizza. What fraction of a pizza does Tom have now?

- A recipe calls for $\frac{3}{4}$ cup of sugar. If you want to make half the recipe, how much sugar will you need?

Section 3: Multiplying and Dividing Fractions

Complete the following tasks:

1. Multiply the following fractions:

◦ $\frac{1}{2} \times \frac{3}{4}$

◦ $\frac{2}{3} \times \frac{3}{5}$

◦ $\frac{1}{4} \times \frac{2}{8}$

2. Divide the following fractions:

◦ $\frac{3}{4} \div \frac{1}{4}$

◦ $\frac{2}{3} \div \frac{1}{3}$

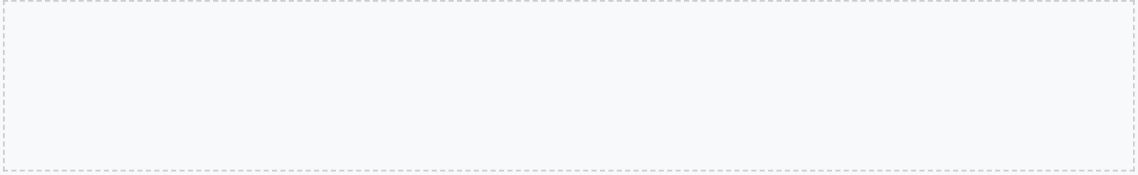
◦ $\frac{5}{6} \div \frac{2}{6}$

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3. Solve the following word problems:

- A bookshelf has 5 shelves, and each shelf can hold $\frac{3}{4}$ of a box of books. If the bookshelf is currently empty, how many boxes of books can you fit on it?

- A group of friends want to share some candy equally. If they have $\frac{3}{4}$ of a bag of candy and there are 4 friends, how much candy will each friend get?



Section 4: Real-World Scenarios

Complete the following tasks:

1. A recipe calls for $2\frac{3}{4}$ cups of flour. If you want to make half the recipe, how much flour will you need?

2. A water tank can hold $\frac{3}{4}$ of a gallon of water. If $\frac{1}{4}$ of a gallon of water is already in the tank, how much more water can you add?

3. A group of students want to share some money equally. If they have $\$3\frac{3}{4}$ and there are 4 students, how much money will each student get?

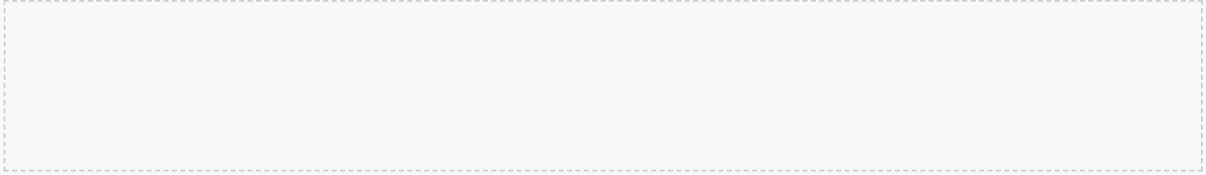
Section 5: Challenge Questions

Complete the following tasks:

1. A bakery sells $\frac{1}{2}$ of a cake for \$10. If you want to buy the whole cake, how much will it cost?

2. A car travels $\frac{3}{4}$ of the distance to a destination in 3 hours. If the total distance is 300 miles, how many miles does the car travel per hour?

3. A person has $\$3\frac{3}{4}$ of a tank of gas in their car. If they drive $\frac{1}{4}$ of the distance to their destination, how much gas will they have left?



Conclusion

We hope this worksheet has helped you understand and apply fraction operations in real-world scenarios. Remember to always simplify your fractions and use the correct operation to solve the problem.

Reflect on what you have learned and answer the following questions:

1. What did you find most challenging in this worksheet?

2. What did you learn about fraction operations?

Extension Activity

Create your own word problem that involves applying fraction operations. Share your problem with a partner or the class and see if they can solve it.

Assessment

This worksheet is designed to assess your understanding of fraction operations and your ability to apply them in real-world scenarios. Your teacher will review your work and provide feedback on your understanding of the concepts.

Answer the following questions to demonstrate your understanding:

1. What is the difference between adding and subtracting fractions?

2. How do you multiply fractions?

3. How do you divide fractions?

