

**Student Name:** \_\_\_\_\_**Class:** \_\_\_\_\_**Due Date:** \_\_\_\_\_

### Introduction and Learning Objectives

Welcome to the Introduction to Fractions and Decimals Homework Sheet! This worksheet is designed for students aged 11-13 years, focusing on the application of fraction and decimal operations to solve real-world problems involving measurement, finance, and data analysis.

By completing this homework sheet, you will develop a deeper understanding of fraction and decimal operations and their real-world applications, while also improving your critical thinking and problem-solving skills.

The learning objectives for this homework sheet are:

- Apply fraction operations (addition, subtraction, multiplication, and division) to solve problems involving measurement.
- Apply decimal operations (addition, subtraction, multiplication, and division) to solve problems involving finance and data analysis.
- Convert between fractions and decimals to solve real-world problems.
- Analyze and interpret data presented in fractions and decimals to make informed decisions.

## Activity 1: Fraction Operations in Measurement

Solve the following problems involving fraction operations in measurement:

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

2. A bookshelf is  $5\frac{1}{2}$  feet long. If it is divided into sections that are  $\frac{1}{4}$  foot long, how many sections can be made?

3. A water tank can hold  $2\frac{3}{4}$  gallons of water. If  $1\frac{1}{2}$  gallons of water are already in the tank, how much more water can be added?

## Activity 2: Decimal Operations in Finance

Solve the following problems involving decimal operations in finance:

1. A shirt is on sale for \$15.99. If you have a 10% discount coupon, how much will you pay for the shirt?

2. A bank account earns an interest rate of 2.5% per year. If you deposit \$100, how much will you have in your account after one year?

3. A phone plan costs \$29.99 per month. If you use 1.5 GB of data, which costs \$0.50 per GB, how much will your total bill be?

### Activity 3: Converting between Fractions and Decimals

Convert the following fractions to decimals and vice versa:

1.  $\frac{3}{4} = ?$

2.  $0.25 = ?$

3.  $2\frac{1}{2} = ?$

4.  $0.75 = ?$

#### Activity 4: Data Analysis

Analyze the following data presented in fractions and decimals:

1. A survey found that  $\frac{3}{4}$  of the students in a class prefer pizza, while  $\frac{1}{4}$  prefer sandwiches. If there are 24 students in the class, how many prefer pizza and how many prefer sandwiches?

2. A company's sales data shows that they sold \$1,250.50 worth of products in the first quarter, \$1,875.25 in the second quarter, and \$2,500.00 in the third quarter. What is the total sales for the three quarters?

## Extension Activities

For advanced learners:

1. Create a word problem involving fraction or decimal operations and solve it.

2. Research a real-world application of fraction or decimal operations and write a short report (1-2 pages) on how it is used.

## Success Criteria

To successfully complete this assignment, you must:

- Show all work and calculations for each problem.
- Answer all questions correctly.
- Complete all activities within the allotted time (30-45 minutes).
- Demonstrate an understanding of fraction and decimal operations and their real-world applications.

To support your child in completing this assignment:

- Encourage them to read each question carefully and show all work.
- Provide a quiet and comfortable workspace with minimal distractions.
- Offer guidance and support as needed, but avoid giving away answers.
- Encourage your child to use a calculator to check their answers, but ensure they understand the underlying math concepts.
- Set a timer to help your child manage their time effectively (30-45 minutes).



## Conclusion

By completing this homework sheet, you will develop a deeper understanding of fraction and decimal operations and their real-world applications, while also improving your critical thinking and problem-solving skills. Remember to follow the instructions carefully and have fun learning!