Student Name: _____

Class: _____

Due Date: _____

Introduction

This homework sheet is designed for 11-14 year old students in the UK Primary School Curriculum, focusing on the mathematics subject area. The learning objectives of this assignment are to apply fraction operations, including addition, subtraction, multiplication, and division, to solve problems in real-world contexts.

Fraction Match

Match the fraction to its equivalent decimal or percentage.

1. 1/2 = _____
2. 3/4 = _____
3. 2/5 = _____
4. 1/10 = _____

Simple Fraction Operations

Complete the following calculations:

1. 1/4 + 1/4 = _____
2. 3/6 - 1/6 = _____
3. 2/3 x 2 = _____
4. 4/8 ÷ 2 = _____

Real-world Application

A recipe for making cookies requires 3/4 cup of sugar. If you want to make half the recipe, how much sugar will you need?

Fraction Word Problems

Solve the following problems:

1. A bookshelf has 5 shelves, and 3/5 of them are filled with books. If the bookshelf can hold 25 books per shelf, how many books are on the bookshelf in total?
2. A water tank can hold 2400 liters of water. If 3/4 of the tank is already filled, how many more liters can be added?

Decimal Operations

Complete the following calculations:

1. 2.5 + 1.8 = _____
2. 4.2 - 2.1 = _____
3. 3.6 x 2 = _____
4. 9.6 ÷ 3 = _____

Data Analysis

A survey of 24 students found that 3/8 of them prefer reading books, 1/4 prefer playing sports, and 1/3 prefer watching TV. Create a pie chart to show the results and answer the following questions:

1. What fraction of students prefer reading books?
2. What percentage of students prefer playing sports?

Complex Fraction Operations

Solve the following problems:

1. 2 3/4 + 1 1/2 = _____
2. 3 1/2 - 2 1/4 = _____
3. 2 3/4 x 3 1/2 = _____
4. 4 1/2 ÷ 2 1/4 = _____

Real-world Application

A shop is having a sale, and a shirt is discounted by 1/4 of its original price. If the original price was £25, how much will you pay for the shirt during the sale?

Problem-solving

A group of friends want to share some money in the ratio 2:3:5. If they have a total of £120, how much will each person get?

Extension Activities

Fraction Bingo

Create a bingo card with fractions, decimals, or percentages, and play a game with a partner or in a small group.

Real-world Research

Research a real-world scenario where fractions or decimals are used, such as cooking, finance, or science. Create a short presentation or poster to share with the class.

Fraction Puzzle

Solve a fraction-based puzzle, such as a Sudoku or a logic grid.

Success Criteria

To achieve success in this assignment, you should:

- Complete all the foundation and core level activities to a good standard.
- Show clear and concise working for each calculation.
- Use real-world examples to demonstrate your understanding of fraction operations.
- Check your answers to ensure they are reasonable and make sense in the context of the problem.

Parent/Guardian Notes

To support your child in completing this assignment, please:

- Encourage them to read each question carefully and show their working.
- Provide a quiet and comfortable workspace with minimal distractions.
- Offer guidance and support when needed, but avoid giving them the answers.
- Encourage them to use real-world examples to demonstrate their understanding of fraction operations.
- Help them to check their answers and identify areas for improvement.

Conclusion

By completing this homework sheet, you will demonstrate your understanding of fraction operations and their application to real-world contexts. Remember to show your working, use real-world examples, and check your answers to ensure they are reasonable and make sense in the context of the problem. Good luck!