

Introduction

This worksheet is designed to assess students' understanding of fractions and decimals. It is intended for 14-15 year old students and aligns with the learning objectives outlined below.

Learning Objectives

- Understand the concept of equivalent fractions
- Simplify fractions
- Convert between fractions and decimals
- Apply fractions and decimals to real-world problems
- Demonstrate proficiency in adding, subtracting, multiplying, and dividing fractions and decimals

Section 1: Multiple Choice Questions

Choose the correct answer for each question.

1. What is the definition of equivalent fractions?
- A) Fractions with the same numerator and denominator
 - B) Fractions with the same numerator but different denominators
 - C) Fractions with the same denominator but different numerators
 - D) Fractions that have the same value but different forms

2. How do you simplify a fraction?
- A) By adding the numerator and denominator
 - B) By subtracting the numerator and denominator
 - C) By dividing the numerator and denominator by their greatest common divisor
 - D) By multiplying the numerator and denominator by their greatest common divisor

3. What is the relationship between fractions and decimals?
- A) Fractions are always greater than decimals
 - B) Decimals are always greater than fractions
 - C) Fractions can be converted to decimals
 - D) Decimals can be converted to fractions

4. What is the rule for adding fractions with unlike denominators?
- A) Add the numerators and keep the same denominator
 - B) Add the denominators and keep the same numerator
 - C) Find the least common multiple of the denominators and add the numerators
 - D) Find the greatest common divisor of the denominators and add the numerators

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5. What is the rule for multiplying fractions?
- A) Multiply the numerators and add the denominators
 - B) Multiply the numerators and multiply the denominators
 - C) Divide the numerators and add the denominators
 - D) Divide the numerators and multiply the denominators



Section 2: Short Answer Questions

Answer each question in complete sentences.

1. Write a short paragraph explaining the concept of equivalent fractions. Be sure to include an example.

2. Provide an example of a real-world problem that involves converting between fractions and decimals.

Section 3: Problem-Solving Questions

Show your work and explain your reasoning for each problem.

1. Simplify the fraction $12/16$.

2. Convert the decimal 0.5 to a fraction.

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

4. A water tank can hold $3/4$ of a liter of water. If $1/4$ of the tank is already filled, how much more water can be added?

Section 4: Critical Thinking Questions

Use critical thinking to solve each problem.

1. A bakery sells $\frac{1}{2}$ dozen donuts for \$6. How much will $\frac{3}{4}$ dozen donuts cost?

2. A car travels $\frac{3}{4}$ of the distance between two cities in 2 hours. If the total distance is 240 miles, how many miles does the car travel per hour?

3. A group of friends want to share some candy equally. If they have $\frac{3}{4}$ of a bag of candy and there are 6 friends, how much candy will each friend get?

Conclusion

This worksheet is designed to assess students' understanding of fractions and decimals. It includes multiple choice questions, short answer questions, and problem-solving questions that cater to different learning styles and abilities.

Answer Key

The answer key is provided for reference only and should not be given to students until after they have completed the worksheet.

Multiple Choice Questions

1. D) Fractions that have the same value but different forms
2. C) By dividing the numerator and denominator by their greatest common divisor
3. C) Fractions can be converted to decimals
4. C) Find the least common multiple of the denominators and add the numerators
5. B) Multiply the numerators and multiply the denominators

Short Answer Questions

1. Equivalent fractions are fractions that have the same value but different forms. For example, $\frac{1}{2}$ and $\frac{2}{4}$ are equivalent fractions.
2. A real-world problem that involves converting between fractions and decimals is measuring the amount of sugar needed for a recipe.

Problem-Solving Questions

1. $\frac{3}{4}$
2. $\frac{1}{2}$
3. $\frac{3}{8}$ cup
4. $\frac{1}{2}$ liter

Critical Thinking Questions

1. \$9
2. 60 miles per hour
3. $\frac{1}{8}$ bag of candy per friend

