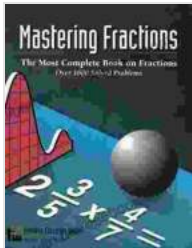


# Mastering Fractions: Over 600 Solved Problems



## Mastering Fractions: Over 1,600 Solved Problems (Hamilton Education Guides Book 1) by Dan Hamilton

★★★★☆ 4.4 out of 5

Language : English

File size : 14754 KB

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Print length : 158 pages

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Fractions are a fundamental part of mathematics and are used in a wide variety of applications. From simple arithmetic to complex algebra, fractions are essential for understanding and solving mathematical problems. However, fractions can also be a challenging concept for many students and professionals alike.

This comprehensive guide will provide you with everything you need to know about fractions, from the basics to more advanced concepts. With over 600 solved problems, you will have plenty of practice to master this important mathematical concept.

### What are Fractions?

A fraction is a number that represents a part of a whole. It is written as two numbers separated by a line, with the top number (the numerator)

representing the part and the bottom number (the denominator)  
representing the whole.

For example, the fraction  $1/2$  represents one-half of a whole. This means that if you have a whole pizza and you cut it into two equal pieces, each piece would be represented by the fraction  $1/2$ .

## **Simplifying Fractions**

One of the most important skills when working with fractions is simplifying them. Simplifying a fraction means reducing it to its lowest terms, which is the simplest form of the fraction.

To simplify a fraction, you need to find the greatest common factor (GCF) of the numerator and denominator. The GCF is the largest number that divides evenly into both the numerator and denominator. Once you have found the GCF, you can divide both the numerator and denominator by the GCF to simplify the fraction.

For example, the fraction  $12/18$  can be simplified by finding the GCF of 12 and 18, which is 6. Dividing both the numerator and denominator by 6 gives us the simplified fraction  $2/3$ .

## **Adding and Subtracting Fractions**

To add or subtract fractions, you need to first make sure that the denominators are the same. To do this, you can multiply the numerator and denominator of each fraction by the other fraction's denominator.

Once the denominators are the same, you can add or subtract the numerators and keep the denominator. For example, to add the fractions

$1/2$  and  $1/3$ , we would first multiply the numerator and denominator of each fraction by the other fraction's denominator.

$$\$1/2 * 3/3 = 3/6\$ \$1/3 * 2/2 = 2/6\$$$

Now that the denominators are the same, we can add the numerators and keep the denominator to get  $5/6$ .

$$\$3/6 + 2/6 = 5/6\$$$

## **Multiplying and Dividing Fractions**

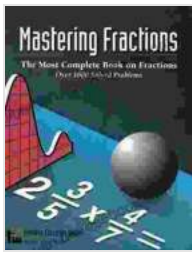
To multiply fractions, you simply multiply the numerators and multiply the denominators. For example, to multiply the fractions  $1/2$  and  $1/3$ , we would multiply the numerators (1 and 1) to get 1, and multiply the denominators (2 and 3) to get 6.

$$\$1/2 * 1/3 = 1/6\$$$

To divide fractions, you simply invert the second fraction and multiply. For example, to divide the fraction  $1/2$  by the fraction  $1/3$ , we would invert the second fraction ( $1/3$ ) to get  $3/1$ , and then multiply.

$$\$1/2 * 3/1 = 3/2\$$$

Mastering fractions is an essential skill for students and professionals alike. With over 600 solved problems, this comprehensive guide will provide you with everything you need to know about fractions. From the basics to more advanced concepts, this guide will help you master this important mathematical concept.



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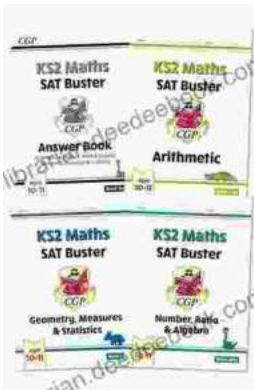
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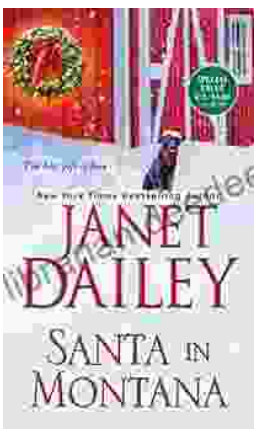
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