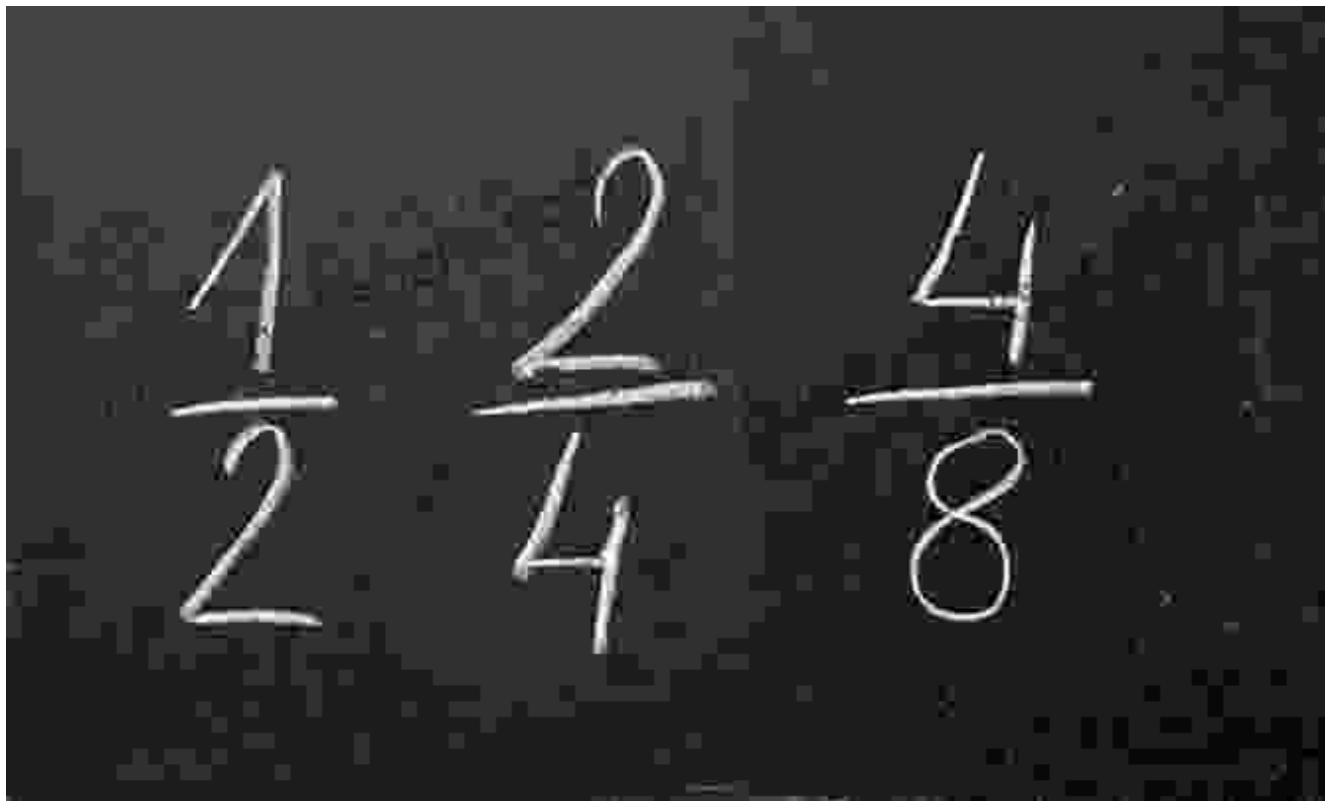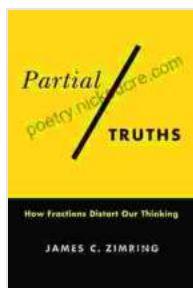# Partial Truths: How Fractions Distort Our Thinking

We live in a world of fractions. From the time we're born, we're constantly dividing things up: our time, our money, our energy. And while fractions can be a useful way to represent quantities, they can also be misleading.

Partial Truths: How Fractions Distort Our Thinking

by James C. Zimring

★★★★★ 5 out of 5

Language	: English
File size	: 3782 KB
Text-to-Speech	: Enabled
Screen Reader	: Supported
Enhanced typesetting	: Enabled
Word Wise	: Enabled
Print length	: 392 pages

That's because fractions only tell part of the story. They don't take into account the whole, and they can make it difficult to compare different quantities. As a result, fractions can lead us to make incorrect assumptions and decisions.

The Problem with Fractions

One of the biggest problems with fractions is that they can make it difficult to compare different quantities. For example, consider the following two fractions:

Fractions

Fraction	Visual	Percent / Decimal	Name
$\frac{1}{1}$		100% 1	One Whole
$\frac{1}{2}$		50% 0.50	One Half
$\frac{1}{3}$		33.3% 0.333	One Third
$\frac{1}{4}$		25% 0.25	One Quarter
$\frac{1}{5}$		20% 0.20	One Fifth
$\frac{1}{6}$		16.6% 0.166	One Sixth
$\frac{1}{7}$		14.29% 0.143	One Seventh
$\frac{1}{8}$		12.5% 0.125	One Eighth
$\frac{1}{9}$		11.11% 0.111	One Ninth
$\frac{1}{10}$		10% 0.10	One Tenth
$\frac{1}{11}$		9.09% 0.0909	One Eleventh
$\frac{1}{12}$		8.33% 0.0833	One Twelfth

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Which fraction is larger? At first glance, it might seem like 3/4 is larger, because it has a larger numerator. However, if we take a closer look, we'll see that 1/2 is actually equal to 0.5, while 3/4 is equal to 0.75. So, 3/4 is actually larger than 1/2.

This example shows how fractions can be misleading. If we only look at the numerators, we might conclude that 3/4 is larger than 1/2. However, if we

take into account the whole, we'll see that 1/2 is actually equal to 0.5, while 3/4 is equal to 0.75. So, 3/4 is actually larger than 1/2.

Another problem with fractions is that they can lead us to make incorrect assumptions. For example, consider the following statement:

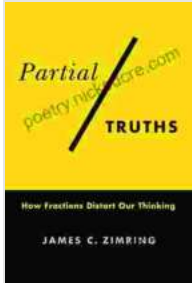"Half of the students in my class are girls."

This statement is technically true, but it can be misleading. If we only look at the fraction, we might conclude that there are an equal number of boys and girls in the class. However, if we take into account the whole, we'll see that there might be more boys than girls in the class.

This example shows how fractions can lead us to make incorrect assumptions. If we only look at the fraction, we might conclude that there are an equal number of boys and girls in the class. However, if we take into account the whole, we'll see that there might be more boys than girls in the class.

How to Avoid the Pitfalls of Fractions

There are a few things you can do to avoid the pitfalls of fractions. First, always take into account the whole. Don't just look at the numerator or denominator. Second, be careful about making assumptions. Don't assume that a fraction is larger or smaller than another fraction just because it has a larger or smaller numerator. Finally, use decimals whenever possible. Decimals are more precise than fractions, and they can help you avoid making incorrect assumptions.

Fractions can be a useful way to represent quantities, but they can also be misleading. By understanding the pitfalls of fractions, you can avoid making incorrect assumptions and decisions.

Partial Truths: How Fractions Distort Our Thinking
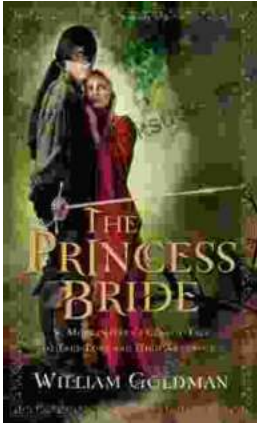
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