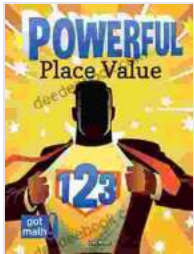


Powerful Place Value Patterns and the Power of Math



Powerful Place Value: Patterns and Power (Got Math!)

by Dessin au compas Angélique Editions

★★★★★ 5 out of 5

Language : English

File size : 4476 KB

Screen Reader : Supported

Print length : 32 pages



Place value is a system for representing numbers that uses the position of digits to indicate their value. For example, in the number 123, the 1 represents 1 hundred, the 2 represents 2 tens, and the 3 represents 3 ones. Place value patterns are regularities in the way that numbers are written and used.

One of the most important place value patterns is the **tens pattern**. The tens pattern states that each digit in a number represents a multiple of 10. For example, in the number 123, the 1 represents 100, the 2 represents 20, and the 3 represents 3. This pattern can be used to quickly identify the value of any digit in a number.

Another important place value pattern is the **hundreds pattern**. The hundreds pattern states that each digit in a number represents a multiple of 100. For example, in the number 123, the 1 represents 100, the 2

represents 200, and the 3 represents 300. This pattern can be used to quickly identify the value of any digit in a number.

Place value patterns can be used to solve a variety of math problems. For example, they can be used to add and subtract numbers, multiply and divide numbers, and compare numbers.

Adding and Subtracting Numbers

Place value patterns can be used to add and subtract numbers by lining up the digits in each number according to their place value. For example, to add the numbers 123 and 456, we would line up the digits as follows:

$$123 + 456$$

We would then add each column of digits, starting with the ones column. The sum of the ones column is 9, the sum of the tens column is 7, and the sum of the hundreds column is 5. Therefore, the sum of 123 and 456 is 579.

Place value patterns can also be used to subtract numbers. To subtract the numbers 456 from 123, we would line up the digits as follows:

$$123 - 456$$

We would then subtract each column of digits, starting with the ones column. The difference between the ones column is 3, the difference between the tens column is 2, and the difference between the hundreds column is 0. Therefore, the difference between 123 and 456 is -333.

Multiplying and Dividing Numbers

Place value patterns can also be used to multiply and divide numbers. To multiply the numbers 123 and 456, we would multiply each digit in the first number by each digit in the second number, and then add the products. For example, to multiply 123 by 456, we would multiply 1 by 4, 1 by 5, 1 by 6, 2 by 4, 2 by 5, 2 by 6, 3 by 4, 3 by 5, and 3 by 6. The sum of the products is 56088. Therefore, the product of 123 and 456 is 56088.

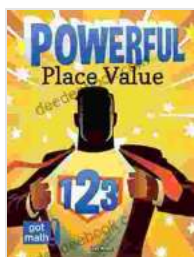
Place value patterns can also be used to divide numbers. To divide the numbers 123 by 456, we would divide the first digit of the dividend (1) by the first digit of the divisor (4). The quotient is 0. We would then multiply the quotient by the divisor (4) and subtract the product from the dividend (1). The difference is 1. We would then bring down the next digit of the dividend (2) and repeat the process. The quotient is 0. We would then multiply the quotient by the divisor (4) and subtract the product from the dividend (12). The difference is 8. We would then bring down the next digit of the dividend (3) and repeat the process. The quotient is 0. We would then multiply the quotient by the divisor (4) and subtract the product from the dividend (8). The difference is 0. Therefore, the quotient of 123 divided by 456 is 0.27.

Comparing Numbers

Place value patterns can also be used to compare numbers. To compare the numbers 123 and 456, we would compare the digits in each number, starting with the hundreds digit. The hundreds digit in 123 is 1, and the hundreds digit in 456 is 4. Since 4 is greater than 1, we know that 456 is greater than 123.

Place value patterns are powerful tools that can help students understand the structure of our number system and develop fluency in operations. By

understanding place value patterns, students can solve a variety of math problems quickly and easily.



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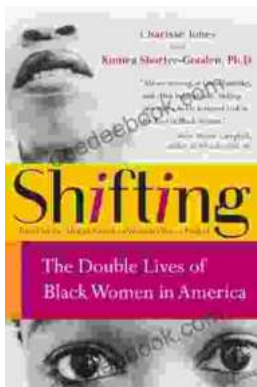
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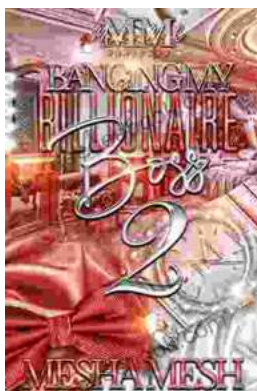
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