4 Four IV

The number 4 is the third even number and the first composite number.

The number 4 is a tetrahedral number. It is the sum of the first two triangular numbers, 1 and 3. Here is sphere resting on a triangle of spheres:

The number 4 is the third square number since $4 = 2^2$ and the two smaller square numbers are 0 and 1.

As a product of primes: $2 \cdot 2$.

The number 4 has three divisors: 1, 2, 4.

The number 4 is the fourth deficient number, since $s(4) = 1 + 2 = 3 < 4$.

Lagrange's four-square theorem says that every number can be written as the sum of four or fewer nonzero square numbers: $4 = 2^2 = 1^2 + 1^2 + 1^2 + 1^2$.

Another theorem is that every number can be written as the sum of nine or fewer cubes, and $4 = 1^3 + 1^3 + 1^3 + 1^3$.

The number 4 appears in one Pythagorean triple, $[3, 4, 5]$.

A number is *deficient* if the sum of its proper divisors is less than the number (a divisor of a number is *proper* if it is less than the number). The proper divisors of 4 are 1 and 2. The sum of these is $1 + 2 = 3$, which is less than 4, so the number 4 is a deficient number. It is the *fourth* deficient number because 1, 2, and 3 are also deficient.

The number 4, which is both 2×2 and $2 + 2$, is the only number that is both the sum and the product of the same two numbers. (Number Gossip)

A plane closed polygon with 4 sides is called a *quadrangle*. Or is it called a quadrilateral?

The number 4 is the only number equal to the number of letters in its name in English. (Number Gossip)

There are exactly 4 one-digit primes. (Prime Curios)

The fourth President of the United States was James Madison.

The first ten amendments of the United States Constitution are called the *Bill of Rights*. The fourth Amendment says that, "The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated."

The fourth state to enter the Union was Georgia.

The fourth largest state in the United States is Montana.

The term of the President and the Vice President of the United States is four years.

The "four corners of the earth" is used to indicate worldwide.

A "four flusher" is someone who bluffs.

The word "foursquare" means marked by unwavering conviction. As in Lagrange's four-square theorem above?

In baseball, four balls will put you on first base.

In baseball, there are four bases: first base, second base, third base, and home.

The Four Corners area is where the states Arizona, Utah, Colorado, and New Mexico meet.

A standard deck of cards has four suits of thirteen cards each.

Bridge is a card game played with four players.

4-H is a program established by the U. S. Department of Agriculture to help young people become productive citizens through promoting useful skills, community service, and personal development. The four H's refer to head, heart, hands, and health.

The first four books of the New Testament—Matthew, Mark, Luke, and John—are called the Four Gospels.

The exclusive social set in New York City was known as the "Four Hundred".

The four horsemen in Revelation 6:2–8 personify war, famine, pestilence, and death.

The ancients classified the physical world into four elements: earth, fire, air, and water.

The birth date of the U. S. is 7-4-1776. Remove the dashes to get 741776. Add the squares of each of the digits of 741776:

$$49 + 16 + 1 + 49 + 49 + 36 = 190$$

Add the squares of the digits of 190 to get $1 + 81 + 0 = 82$. Add the squares of the digits of 82 to get $64 + 4 = 68$. Add the squares of the digits of 68 to get $36 + 64 = 100$. Add the squares of the digits of 100 to get $1 + 0 + 0 = 1$. The end. Here's the surprise: Whatever number you start with, you always get to either 1 or 4. Try this with your birth date. Your social security number. Your telephone number.