23 = 22 + 1

Unique prime representation: see 47.

Largest number not the sum of distinct powers.

At prime 23 there are 7 mutual-odds or 3 mutual-odds.

With 23 people in a room, (on this planet),

odds are two share a birthday.

(better than 50:50) Sophie Germain: 2·23+1 prime.

23 = 3^2 - 2^2. From Sophie Germain: 2·11+1 = 23.

Prime, smallest odd prime not a twin.

Woodall number. 23 = 3·2^3 - 1; regular prime.

23 = 1^2 + 2^2 + 3^2 + 3^2 uniquely.

One of only two numbers that need 9 cubes. (The other is 239.)

Largest modulus with all quadratic residues up to its root:

23 = 1^3 + 1^3 + 1^3 + 1^3 + 1^3 + 1^3 + 2^3 + 2^3

Factorization

Smallest with Ω(9(23)) cyclotomic integers without unique
96 negatives allowed. 23 = 2^3 + 2^3 + 2^3 + (-1)^3.

23 = 8.0! + 1.1! + 2.2! + 3.3!

Smallest 23 = 3 + 9 = 5 + 17 = 11 + 11 sums of primes.

23: smallest number of rigid rods that

bar a square. Smallest 23 = 5 + 7 + 11 = 3 + 7 + 13.

First prime where 23rd roots of unity form

cyclotomic integers without unique factorization.

Number of trees with eight nodes.

Factor of 2^n-1; number of regular & semi-regular polyhedra.

Smallest # of integer sides box to tile a box with no common length.

2^23 - 1 is composite: 47·178481

Integers for Ω(9(23)) class number 3.

Sophie Germain prime: 2·23+1 also prime.

Wedderburn-Etherington number. Congruent number.

The first Pillai prime. Today perfect code size 23.

Pillai prime, as 23|14! + 1 but 14∤23.