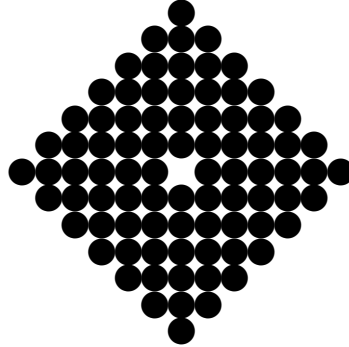


84 Eighty-Four LXXXIV



Corresponding ordinal: eighty-fourth.

The number 84 is the forty-third even number and the sixtieth composite number.

As a product of primes: $84 = 2^2 \cdot 3 \cdot 7$.

The number 84 has twelve divisors: 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42, 84.

The number 84 is the eighteenth abundant number: $s(84) = 1 + 2 + 3 + 4 + 6 + 7 + 12 + 14 + 21 + 28 + 42 = 130 > 84$.

As a sum of four or fewer squares: $84 = 2^2 + 4^2 + 8^2 = 1^2 + 1^2 + 1^2 + 9^2 = 1^2 + 3^2 + 5^2 + 7^2 = 3^2 + 5^2 + 5^2 + 5^2 = 4^2 + 4^2 + 4^2 + 6^2$.

As a sum of nine or fewer cubes: $84 = 4 \cdot 1^3 + 2 \cdot 2^3 + 4^3 = 3 \cdot 1^3 + 3 \cdot 3^3 = 1^3 + 7 \cdot 2^3 + 3^3$.

As a difference of two squares: $84 = 10^2 - 4^2 = 22^2 - 20^2$.

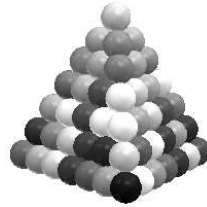
The number 84 appears in thirteen Pythagorean triples:

[13, 84, 85] [35, 84, 91] [63, 84, 105] [80, 84, 116] [84, 112, 140]
[84, 135, 159] [84, 187, 205] [84, 245, 259] [84, 288, 300] [84, 437, 445]
[84, 585, 591] [84, 880, 884] [84, 1763, 1765]

The first, seventh, tenth, and thirteenth are primitive.

As a sum of two odd primes: $84 = 5 + 79 = 11 + 73 = 13 + 71 = 17 + 67 = 23 + 61 = 31 + 53 = 37 + 47 = 41 + 43$. Note that the last two are twin primes.

The number 84 is the sum of the first seven triangular numbers: $1 + 3 + 6 + 10 + 15 + 21 + 28$. So it is a tetrahedral number. You get a tetrahedron by stacking up those seven triangles.



Note that $84 = 2^5 + 3^3 + 5^2$.

The number 84 is the least common multiple of the first two perfect numbers, 6 and 28.

Eighty Four is a community in Washington County, Pennsylvania, near Pittsburgh. Its post office was established in 1884, which may account for the name. It is the corporate headquarters of 84 Lumber Company, which is “the nation’s leading privately held building materials and services supplier to professional contractors.”

It takes Uranus 84 years to travel around the sun.