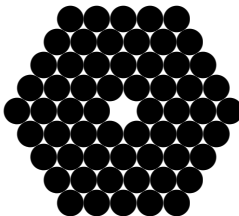


# 60 Sixty LX



Corresponding ordinal: sixtieth.

The number 60 is the thirty-first even number and the forty-second composite number.

As a product of primes:  $60 = 2^2 \cdot 3 \cdot 5$ .

The number 60 has twelve divisors: 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60.

The number 60 is the twelfth abundant number:  $s(60) = 1 + 2 + 3 + 4 + 5 + 6 + 10 + 12 + 15 + 20 + 30 = 108 > 60$ . Notice that 60 is a proper multiple of the perfect number 6 (as well as a multiple of some abundant numbers).

As a sum of four or fewer squares:  $60 = 1^2 + 1^2 + 3^2 + 7^2 = 1^2 + 3^2 + 5^2 + 5^2 = 2^2 + 2^2 + 4^2 + 6^2$ .

As a sum of nine or fewer cubes:  $60 = 7 \cdot 1^3 + 2 \cdot 3^3 = 1^3 + 4 \cdot 2^3 + 3^3$ .

As a difference of two squares:  $60 = 8^2 - 2^2 = 16^2 - 14^2$ .

The number 60 appears in fourteen Pythagorean triples:

|                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|
| [11, 60, 61]   | [25, 60, 65]   | [32, 60, 68]   | [36, 48, 60]   | [45, 60, 75]   |
| [60, 63, 87]   | [60, 80, 100]  | [60, 91, 109]  | [60, 144, 156] | [60, 175, 185] |
| [60, 221, 229] | [60, 297, 303] | [60, 448, 452] | [60, 899, 901] |                |

The first, eighth, eleventh, and fourteenth are primitive

As a sum of two odd primes:  $7 + 53, 13 + 47, 17 + 43, 19 + 41, 23 + 37, 29 + 31$ .

The number 60 is next to two prime numbers: 59 and 61.

The number 60 is the smallest number that can be written as the sum of two primes in six different ways.

The number 60 is a *unitary perfect number*, that is, it is the sum of those of its proper divisors  $d$  such that  $d$  and  $60/d$  have no common factor. Those divisors are 1, 3, 4, 5, 12, 15, and 20.

2 Chapter 60 Sixty LX

The first four unitary perfect numbers are 6, 60, 90, and 146361946186458562560000.

The last digits of the numbers in the Fibonacci sequence form a cycle of length 60. The *Fibonacci sequence* is 0, 1, 1, 2, 3, 5, 8, 13, . . . where each term is the sum of the two preceding terms.

At age 60, Harry S. Truman was inaugurated as President of the United States.

There are 60 seconds in a minute.

There are 60 minutes in an hour.

Each of the three angles in an equilateral triangle measures 60 degrees.

Cobalt 60, a radioactive isotope of cobalt produced in nuclear reactors, is used as a source of gamma rays for radiotherapy.