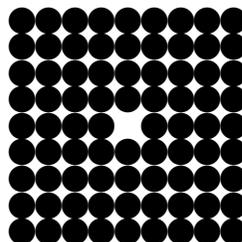


80 Eighty LXXX



Corresponding ordinal: eightieth.

The number 80 is the forty-first even number and the fifty-seventh composite number.

As a product of primes: $80 = 2^4 \cdot 5$.

The number 80 has ten divisors: 1, 2, 4, 5, 8, 10, 16, 20, 40, 80.

The number 80 is the seventeenth abundant number: $s(80) = 1 + 2 + 4 + 5 + 8 + 10 + 16 + 20 + 40 = 106 > 80$.

As a sum of four or fewer squares: $80 = 4^2 + 8^2 = 2^2 + 2^2 + 6^2 + 6^2$.

As a sum of nine or fewer cubes: $80 = 2 \cdot 1^3 + 3 \cdot 2^3 + 2 \cdot 3^3 = 2 \cdot 2^3 + 4^3$.

As a difference of two squares: $80 = 9^2 - 1^2 = 12^2 - 8^2 = 21^2 - 19^2$.

The number 80 appears in eleven Pythagorean triples:

[18, 80, 82] [39, 80, 89] [48, 64, 80] [60, 80, 100] [80, 84, 116]
[80, 150, 170] [80, 192, 208] [80, 315, 325] [80, 396, 404] [80, 798, 802]
[80, 1599, 1601]

The second and the last are primitive.

As a sum of two odd primes: $80 = 7 + 73 = 13 + 67 = 19 + 61 = 37 + 43$.

There are 80 four-digit primes obtained by concatenating two two-digit primes. The smallest is 1117, the largest 9767.

The number 80 is the smallest number whose English name (eighty) has a smaller numerical value than it: $5 + 9 + 7 + 8 + 20 + 25 = 74 < 80$. This is a common phenomenon, although the only other two-digit number with this property is 91. The largest number whose English name does not have a smaller numerical value than it is 279: the value of “two hundred seventy nine” is 284.

2 Chapter 80 Eighty LXXX

Moses was 80 years old when he spoke to Pharaoh. “And Moses was fourscore years old, and Aaron fourscore and three years old, when they spake unto Pharaoh.” Exodus 7:7.

The number 80 is the number of lashes given to those who accuse chaste women and do not produce four witnesses. Qur’an, Chapter 24, verse 4.