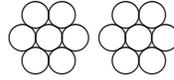
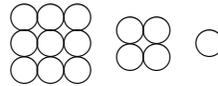


# 14 Fourteen XIV



Corresponding ordinal: fourteenth

The number 14 is a pyramidal number. It is the sum  $1^2 + 2^2 + 3^2 = 14$  of the first three squares. Fourteen cannonballs can be stacked to form a pyramid:



The number 14 is the eighth even number and the seventh composite number.

As a product of primes:  $14 = 2 \cdot 7$ .

The number 14 has four divisors: 1, 2, 7, 14.

The number 14 is the twelfth deficient number:  $s(14) = 1 + 2 + 7 = 10 < 14$ .

As the sum of four or fewer squares:  $14 = 1^2 + 2^2 + 3^2$ .

As the sum of nine or fewer cubes:  $14 = 6 \cdot 1^3 + 2^3$ .

The number 14 appears in only one Pythagorean Triple, [14, 48, 50]. The triple is not primitive because 14 is twice an odd number.

As the sum of two odd primes:  $14 = 3 + 11 = 7 + 7$ .

The number  $14 = 7 + 7$  is the sum of two hexagonal numbers as you can see in the diagram above.

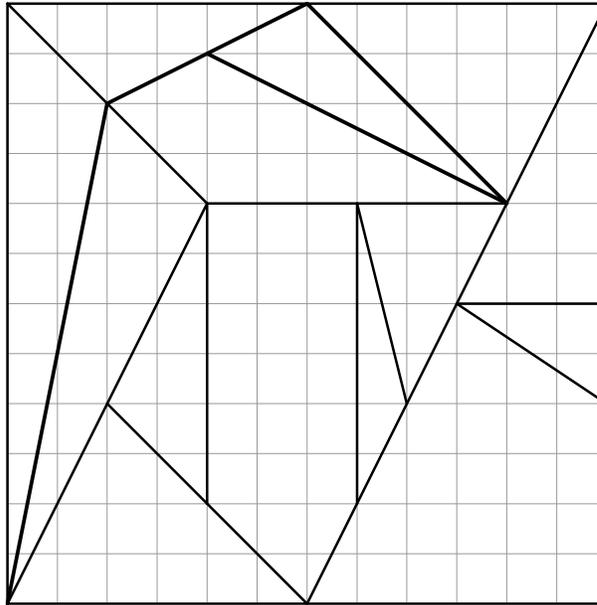
The number 14 is the largest number for which there are as many primes less than it as there are composites less than it. (Number Gossip)

The sum of the first 14 primes, the first 14 composites, and the first 14 noncomposites, are each prime. The next such number is 208. (Prime Curios)

2 Chapter 14 Fourteen XIV

The number 14 is the smallest *nontotient*. A number  $n$  is a *totient*, if there is a number with exactly  $n$  numbers less than it and relatively prime to it.

The *loculus of Archimedes*, the “world’s oldest puzzle”, consists of 14 polygons of various shapes and sizes, all of integer area, that fit together to form a twelve-by-twelve square. The question as to the number of ways in which this can be done was answered in 2003 using a computer program. The answer is 536.



The fourteenth President of the United States was Franklin Pierce.

The fourteenth state to enter the Union was Vermont.

The fourteenth largest state in the United States is Idaho.

A *fortnight* is 14 days. Or is it 14 nights?

A *stone* is an official British unit of weight that is equal to 14 pounds.

Carbon-14 is a radioactive isotope of carbon. It is used in archaeology as a way to determine how old things are, and as a tracer in medical tests.

Gold in jewelry is typically 14 parts pure gold and 10 parts other metals. This is called 14 karat gold—pure gold is 24 karat gold. So 14 karat gold is 58% pure gold.