

# 1 One I



Corresponding ordinal: first.

A number is called *odd* if it is not even. Thus 1 is odd because we can't divide it in half. It is the first odd number.

If you multiply 1 by itself, then you get 1 again, that is,  $1 \times 1 = 1$ . Any number multiplied by itself is a square number. So  $0 = 0 \times 0$  is the first square number, and 1 is the second square number.

If you multiply 1 by any number you get that number again. For example,  $1 \times 65 = 65 \times 1 = 65$ .

If the product of two numbers is odd, then both factors must be odd. We know this because in Chapter 0 we saw that any multiple of an even number is even.

The first power of any number is that number, that is,  $a^1 = a$  for every number  $a$ .

The number 1 raised to any power is equal to 1, that is,  $1^n = 1$  for every number  $n$ .

If the product of two numbers is 1, then they must both be 1.

Every number can be written as the sum of four or fewer nonzero squares. We can write  $1 = 1^2$ , a sum of one nonzero square.

As a real number, the number 1 is represented by both of the repeating decimals  $1.000000\dots$  and  $0.999999\dots$ .

The number 1 is a factorial number for two reasons:  $0! = 1$  and  $1! = 1$ .

The number 1 is triangular, square, tetrahedral, pyramidal, and octahedral. These shapes will make more sense when you meet them again for larger numbers.

The first President of the United States was George Washington.

The first ten amendments to the United States Constitution are called the *Bill of Rights*. The first amendment says that "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press, or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances."

The first state to enter the Union was Delaware.

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If we arrange the states in the United States in decreasing order of size, the first one is Alaska.

The first in the alphabetical listing of states in the United States is Alabama.

If we arrange the countries in the United Nations in decreasing order of size, the first one is Russia.

The first in the alphabetical listing of countries in the United Nations is Aden.

If the number of performers in an artistic presentation is 1, then it is called a solo act.

A set with 1 element is called a *singleton*.

A *repunit* is a number made up entirely of the digit 1, like 1, 11, 111, 1111, and 11111.

A *prime* is a number which cannot be written as a product unless one of the factors is 1.

The number of digits in the first three repunit primes are 2, 19, and 23. It's no accident that the numbers 2, 19, and 23, are themselves primes.

Euclid was not sure whether 1 should be considered a number. We aren't either: if you were late just one time, were you late a number of times?

In a deck of cards, the ace stands for the number 1. As such, it used to rank behind all the other cards, those numbered 2 to 10, and the court cards: king, queen, and jack. During the French Revolution it was decided to promote the lowly ace to a rank higher than the king, where it remains today.

The number 1 is one of two numbers whose Roman numeral spells an English word. What is the other?