In the system with radix 13, for example, a string of digits such as 398 denotes the number 3 \times 13^2 + 9 \times 13^1 + 8 \times 13^0.

More generally, in a system with radix *b* (*b* > 1), a string of digits d_1 \ldots d_ndenotes the number d_1 b^{n-1} + d_2 b^{n-2} + \cdots +  d_n b^0, where  0\leq d_i < b .[[1]](https://en.wikipedia.org/wiki/Radix#cite_note-morris_mano_p13_14-1)

Commonly used numeral systems include:

| **Base/Radix** | **Name** | **Description** |
| --- | --- | --- |
| 10 | [decimal system](https://en.wikipedia.org/wiki/Decimal) | the most used system of numbers in the world, is used in arithmetic. Its ten digits are "0–9". Used in most [mechanical counters](https://en.wikipedia.org/wiki/Mechanical_counter). |
| 12 | [duodecimal (dozenal) system](https://en.wikipedia.org/wiki/Duodecimal) | is sometimes advocated due to divisibility by 2, 3, 4 and 6. It was traditionally used as part of quantities expressed in [dozens](https://en.wikipedia.org/wiki/Dozen) and [grosses](https://en.wikipedia.org/wiki/Gross_%28unit%29). |
| 2 | [binary numeral system](https://en.wikipedia.org/wiki/Binary_numeral_system) | used internally by nearly all [computers](https://en.wikipedia.org/wiki/Computer), is [base two](https://en.wikipedia.org/wiki/Base_two). The two digits are "0" and "1", expressed from switches displaying OFF and ON respectively. Used in most electric [counters](https://en.wikipedia.org/wiki/Counter_%28digital%29). |
| 16 | [hexadecimal system](https://en.wikipedia.org/wiki/Hexadecimal) | is often used in computing. The sixteen digits are "0–9" followed by "A–F" or "a–f". |
| 8 | [octal system](https://en.wikipedia.org/wiki/Octal) | is occasionally used in computing. The eight digits are "0–7". |
| 20 | [vigesimal](https://en.wikipedia.org/wiki/Vigesimal) | traditional numeral system in several cultures, still used by some for counting. |
| 60 | [sexagesimal system](https://en.wikipedia.org/wiki/Sexagesimal) | originated in ancient [Sumeria](https://en.wikipedia.org/wiki/Sumer) and passed to the [Babylonians](https://en.wikipedia.org/wiki/Babylonia).[[2]](https://en.wikipedia.org/wiki/Radix#cite_note-2) Used today as the basis of our modern [circular coordinate system](https://en.wikipedia.org/wiki/Minute_of_arc#Symbols_and_abbreviations) (degrees, minutes, and seconds) and [time](https://en.wikipedia.org/wiki/Time) measuring (hours, minutes, and seconds). |