Standard Names for Different Sizes of Numbers

Name	Short scale (U.S. and modern British)	Long scale (continental Europe, older British)	AHD4[1]	COD[2]	OED2[3]	OEDnew[4]	RHD2[5]	SOED3[6]	W3[7]	UM[8]
Million	10^6	10^6	✓	✓	✓	✓	✓	✓	✓	✓
Milliard		10^9	✓		✓	✓	✓			✓
Billion	10^9	10^{12}	✓	✓	✓	✓	✓	✓	✓	✓
Trillion	10^{12}	10^{18}	✓	✓	✓	✓	✓	✓	✓	✓
Quadrillion	10^{15}	10^{24}	✓		✓	✓	✓	✓	✓	✓
Quintillion	10^{18}	10^{30}	✓		✓	✓	✓	✓	✓	✓
Sextillion	10^{21}	10^{36}	✓		✓	✓	✓	✓	✓	✓
Septillion	10^{24}	10^{42}	✓		✓	✓	✓	✓	✓	✓
Octillion	10^{27}	10^{48}	✓		✓	✓	✓	✓	✓	✓
Nonillion	10^{30}	10^{54}	✓		✓	✓	✓	✓	✓	✓
Decillion	10^{33}	10^{60}	✓		✓	✓	✓	✓	✓	✓
Undecillion	10^{36}	10^{66}	✓				✓		✓	✓
Duodecillion	10^{39}	10^{72}	✓				✓		✓	✓
Tredecillion	10^{42}	10^{78}	✓				✓		✓	✓
Quattuordecillion	10^{45}	10^{84}	✓				✓		✓	✓
Quindecillion (Quinquadecillion)	10^{48}	10^{90}	✓				✓		✓	✓
Sexdecillion (Sedecillion)	10^{51}	10^{96}	✓				✓		✓	✓
Septendecillion	10^{54}	10^{102}	✓				✓		✓	✓
Octodecillion	10^{57}	10^{108}	✓				✓		✓	✓
Novemdecillion (Novendecillion)	10^{60}	10^{114}	✓				✓		✓	✓
Vigintillion	10^{63}	10^{120}	✓		✓	✓	✓	✓	✓	✓
Centillion	10^{303}	10^{600}	✓		✓	✓	✓			✓

Name	Value	Authorities							
		AHD4	COD	OED2	OEDnew	RHD2	SOED3	W3	UM
Googol	10^{100}	✓		✓	✓	✓	✓	✓	✓
Googolplex	10^{Googol}	✓	✓	✓	✓		✓	✓	✓

Apart from *million*, the words in this list ending with *-illion* are all derived by adding prefixes (*bi-*, *tri-*, etc., derived from Latin) to the stem *-illion*.[9] *Centillion*[10] appears to be the highest name ending in "-illion" that is included in these dictionaries. *Trigintillion*, often cited as a word in discussions of names of large numbers, is not included in any of them, nor are any of the names that can easily be created by extending the naming pattern (*unvigintillion*, *duovigintillion*, *duoquinquagintillion*, etc.).

All of the dictionaries included *googol* and *googolplex*, generally crediting it to the Kasner and Newman book and to Kasner's nephew. None include any higher names in the googol family (*googolduplex*, etc.). The *Oxford English Dictionary* comments that *googol* and *googolplex* are "not in formal mathematical use".

For additional details, see billion and long and short scales.

Base-illion Value (short scale)	Value	U.S. and modern British (short scale)	Traditional British (long scale)	Traditional European (Peletier) (long scale)	SI Symbol	SI Prefix
1	10^6	Million	Million	Million	M	mega-
2	10^9	Billion	Thousand million	Milliard	G	giga-
3	10^{12}	Trillion	Billion	Billion	T	tera-
4	10^{15}	Quadrillion	Thousand billion	Billiard	P	peta-
5	10^{18}	Quintillion	Trillion	Trillion	E	exa-
6	10^{21}	Sextillion	Thousand trillion	Trilliard	Z	zetta-
7	10^{24}	Septillion	Quadrillion	Quadrillion	Y	yotta-
8	10^{27}	Octillion	Thousand quadrillion	Quadrilliard		
9	10^{30}	Nonillion	Quintillion	Quintillion		
10	10^{33}	Decillion	Thousand quintillion	Quintilliard		
11	10^{36}	Undecillion	Sextillion	Sextillion		
12	10^{39}	Duodecillion	Thousand sextillion	Sextilliard		

13	10^{42}	Tredecillion	Septillion	Septillion
14	10^{45}	Quattuordecillion	Thousand septillion	Septilliard
15	10^{48}	Quindecillion	Octillion	Octillion
16	10^{51}	Sexdecillion	Thousand octillion	Octilliard
17	10^{54}	Septendecillion	Nonillion	Nonillion
18	10^{57}	Octodecillion	Thousand nonillion	Nonilliard
19	10^{60}	Novemdecillion	Decillion	Decillion
20	10^{63}	Vigintillion	Thousand decillion	Decilliard
21	10^{66}	Unvigintillion	Undecillion	Undecillion
22	10^{69}	Duovigintillion	Thousand undecillion	Undecilliard
23	10^{72}	Tresvigintillion	Duodecillion	Duodecillion
24	10^{75}	Quattuorvigintillion	Thousand duodecillion	Duodecilliard
25	10^{78}	Quinquavigintillion	Tredecillion	Tredecillion
26	10^{81}	Sesvigintillion	Thousand tredecillion	Tredecilliard
27	10^{84}	Septemvigintillion	Quattuordecillion	Quattuordecillion
28	10^{87}	Octovigintillion	Thousand quattuordecillion	Quattuordecilliard
29	10^{90}	Novemvigintillion	Quindecillion	Quindecillion
30	10^{93}	Trigintillion	Thousand quindecillion	Quindecilliard
31	10^{96}	Untrigintillion	Sexdecillion	Sexdecillion
32	10^{99}	Duotrigintillion	Thousand sexdecillion	Sexdecilliard
33	10^{102}	Trestrigintillion	Septendecillion	Septendecillion
34	10^{105}	Quattuortrigintillion	Thousand septendecillion	Septendecilliard
35	10^{108}	Quinquatrigintillion	Octodecillion	Octodecillion
36	10^{111}	Sestrigintillion	Thousand octodecillion	Octodecilliard
37	10^{114}	Septentrigintillion	Novemdecillion	Novemdecillion
38	10^{117}	Octotrigintillion	Thousand novemdecillion	Novemdecilliard
39	10^{120}	Novemtrigintillion	Vigintillion	Vigintillion
40	10^{123}	Quadragintillion	Thousand vigintillion	Vigintilliard
50	10^{153}	Quinquagintillion	Thousand quinquavigintillion	Quinquavigintilliard
60	10^{183}	Sexagintillion	Thousand trigintillion	Trigintilliard
70	10^{213}	Septuagintillion	Thousand quinquatrigintillion	Quinquatrigintilliard
80	10^{243}	Octogintillion	Thousand	Quadragintilliard

quadragintillion

90	10^{273}	Nonagintillion	Thousand quinquaquadragintillion	Quinquaquadragintilliard
100	10^{303}	Centillion	Thousand quinquagintillion	Quinquagintilliard
101	10^{306}	Uncentillion	Unquinquagintillion	Unquinquagintillion
102	10^{309}	Duocentillion	Thousand unquinquagintillion	Unquinquagintilliard
103	10^{312}	Trescentillion	Duoquinquagintillion	Duoquinquagintillion
110	10^{333}	Decicentillion	Thousand quinquaquinquagintillion	Quinquaquinquagintilliard
111	10^{336}	Undecicentillion	Sexaquinquagintillion	Sexaquinquagintillion
120	10^{363}	Viginticentillion	Thousand sexagintillion	Sexagintilliard
121	10^{366}	Unviginticentillion	Unsexagintillion	Unsexagintillion
130	10^{393}	Trigintacentillion	Thousand quinquasexagintillion	Quinquasexagintilliard
140	10^{423}	Quadragintacentillion	Thousand septuagintillion	Septuagintilliard
150	10^{453}	Quinquagintacentillion	Thousand quinquaseptuagintillion	Quinquaseptuagintilliard
160	10^{483}	Sexagintacentillion	Thousand octogintillion	Octogintilliard
170	10^{513}	Septuagintacentillion	Thousand quinquaoctogintillion	Quinquaoctogintilliard
180	10^{543}	Octogintacentillion	Thousand nonagintillion	Nonagintilliard
190	10^{573}	Nonagintacentillion	Thousand quinquanonagintillion	Quinquanonagintilliard
200	10^{603}	Ducentillion	Thousand centillion	Centilliard
300	10^{903}	Trecentillion	Thousand quinquagintacentillion	Quinquagintacentilliard
400	10^{1203}	Quadringentillion	Thousand ducentillion	Ducentilliard
500	10^{1503}	Quingentillion	Thousand quinquagintaducentillion	Quinquagintaducentilliard
600	10^{1803}	Sescentillion	Thousand trecentillion	Trecentilliard
700	10^{2103}	Septingentillion	Thousand quinquagintatrecentillion	Quinquagintatrecentilliard
800	10^{2403}	Octingentillion	Thousand quadringentillion	Quadringentilliard

Value		U.S. and modern British (short scale)	Traditional British (long scale)	Traditional European (Peletier) (long scale)
900	10^{270}_{3} Nongentillion		Thousand quinquagintaquadringentillion	Quinquagintaquadringentilliard
1000	10^{300}_{3} Millinillion		Thousand quingentillion	Quingentilliard

Value	U.S. and modern British (short scale)	Traditional British (long scale)	Traditional European (Peletier) (long scale)
10^{100}	Googol (Ten duotrigintillion)	Googol (Ten thousand sexdecillion)	Googol (Ten sexdecilliard)
$10^{10^{100}}$	Googolplex	Googolplex	Googolplex

[edit] Proposals for new naming system

See also: -yllion

In 2001, Russ Rowlett, Director of the Center for Mathematics and Science Education at the University of North Carolina at Chapel Hill proposed that, to avoid confusion, the Latin-based short scale and long scale systems should be replaced by an unambiguous Greek-based system for naming large numbers that would be based on powers of one thousand.[15]

Value	Name	Value	Name	Value	Name
10^3	Thousand	10^{33}	Hendekillion	10^{63}	Icosihenillion
10^6	Million	10^{36}	Dodekillion	10^{66}	Icosidillion
10^9	Gillion	10^{39}	Trisdekillion	10^{69}	Icositrillion
10^{12}	Tetrillion	10^{42}	Tetradekillion	10^{72}	Icositetrillion
10^{15}	Pentillion	10^{45}	Pentadekillion	10^{75}	Icosipentillion
10^{18}	Hexillion	10^{48}	Hexadekillion	10^{78}	Icosihexillion
10^{21}	Heptillion	10^{51}	Heptadekillion	10^{81}	Icosiheptillion
10^{24}	Oktillion	10^{54}	Oktadekillion	10^{84}	Icosioktillion
10^{27}	Ennillion	10^{57}	Enneadekillion	10^{87}	Icosiennillion
10^{30}	Dekillion	10^{60}	Icosillion	10^{90}	Triacontillion

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tenths	0.9
hundredths	0.09
thousandths	0.009
ten thousandths	0.0009
hundred thousandths	0.00009

millionths	0.000009

Place Value Chart

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             0.000000001   one billionth

             0.00000001   one hundred-millionth
             0.0000001   one ten-millionth
             0.000001   one millionth

             0.00001   one hundred-thousandth
             0.0001   one ten-thousandth
             0.001   one thousandth
             0.01   one hundredth (1 in the hundredths place)
             0.1   one tenth (1 in the tenths place)

               1   one (1 in the ones or units place)
              10   ten (1 in the tens place)
             100   one hundred  (1 in the hundreds place)

           1,000   one thousand (1 in the thousands place)
          10,000   ten thousand
         100,000   one hundred thousand

       1,000,000   one million
      10,000,000   ten million
     100,000,000   one hundred million

   1,000,000,000   one billion
  10,000,000,000   ten billion
 100,000,000,000   one hundred billion

1,000,000,000,000   one trillion...
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