



MULTIPLICATION TABLES OF VARIOUS BASES

EXPANDED TO COVER ALL BASES BETWEEN 2 AND 60 INCLUSIVE!

by Michael Thomas D^e Vlieger

Ever wonder what multiplication tables might look like in alternative bases? The NUMBER BASE presents the following tables in an effort to thoroughly explore number bases in general. Not long into any study of the multiplication tables, we require new numerals for digits greater than 9 (“transdecimal” digits). Beginning with base eleven, we need more digits. Here we use the author’s numeral set known as “argam” (< Arabic, “numbers”). This number set extends to about four hundred numerals, however only sixty are currently available in the typeface. This document now covers multiplication tables for bases 2 through 60 inclusive.

Updated & expanded 24 November 2014.

Binary (Base 2)

1	10
10	100

Ternary (Base 3)

1	2	10
2	11	20
10	20	100

Quaternary (Base 4)

1	2	3	10
2	10	12	20
3	12	21	30
10	20	30	100

Quinary (Base 5)

1	2	3	4	10
2	4	11	13	20
3	11	14	22	30
4	13	22	31	40
10	20	30	40	100

Senary (Base 6)

1	2	3	4	5	10
2	4	10	12	14	20
3	10	13	20	23	30
4	12	20	24	32	40
5	14	23	32	41	50
10	20	30	40	50	100

Septenary (Base 7)

1	2	3	4	5	6	10
2	4	6	11	13	15	20
3	6	12	15	21	24	30
4	11	15	22	26	33	40
5	13	21	26	34	42	50
6	15	24	33	42	51	60
10	20	30	40	50	60	100

See the last page of this document for notes on the names of bases.

Octal (Base 8)

1	2	3	4	5	6	7	10
2	4	6	10	12	14	16	20
3	6	11	14	17	22	25	30
4	10	14	20	24	30	34	40
5	12	17	24	31	36	43	50
6	14	22	30	36	44	52	60
7	16	25	34	43	52	61	70
10	20	30	40	50	60	70	100

Nonary (Base 9)

1	2	3	4	5	6	7	8	10
2	4	6	8	11	13	15	17	20
3	6	10	13	16	20	23	26	30
4	8	13	17	22	26	31	35	40
5	11	16	22	27	33	38	44	50
6	13	20	26	33	40	46	53	60
7	15	23	31	38	46	54	62	70
8	17	26	35	44	53	62	71	80
10	20	30	40	50	60	70	80	100

Decimal (Base 10)

1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100

Undecimal (Base 11)

Numeral Set:

DECIMAL EQUIVALENT										
0	1	2	3	4	5	6	7	8	9	10
0	1	2	3	4	5	6	7	8	9	X
UNDECIMAL DIGITS										

1	2	3	4	5	6	7	8	9	X	10
2	4	6	8	X	11	13	15	17	19	20
3	6	9	11	14	17	1X	22	25	28	30
4	8	11	15	19	22	26	2X	33	37	40
5	X	14	19	23	28	32	37	41	46	50
6	11	17	22	28	33	39	44	4X	55	60
7	13	1X	26	32	39	45	51	58	64	70
8	15	22	2X	37	44	51	59	66	73	80
9	17	25	33	41	4X	58	66	74	82	90
X	19	28	37	46	55	64	73	82	91	X0
10	20	30	40	50	60	70	80	90	X0	100

Note that there are no standard undecimal numerals. The numerals presented here are the set of Dwiggins duodecimal numerals whose values are less than the base $r = \text{decimal } 11$. The numeral “X” is employed by the International Standard Book Number (ISBN) as a check digit.

Duodecimal (Base 12)

Numeral Set:

DECIMAL EQUIVALENT											
0	1	2	3	4	5	6	7	8	9	10	11
0	1	2	3	4	5	6	7	8	9	τ	ϕ
DUODECIMAL DIGITS											

1	2	3	4	5	6	7	8	9	τ	ϕ	10
2	4	6	8	τ	10	12	14	16	18	1τ	20
3	6	9	10	13	16	19	20	23	26	29	30
4	8	10	14	18	20	24	28	30	34	38	40
5	τ	13	18	21	26	2τ	34	39	42	47	50
6	10	16	20	26	30	36	40	46	50	56	60
7	12	19	24	2τ	36	41	48	53	5τ	65	70
8	14	20	28	34	40	48	54	60	68	74	80
9	16	23	30	39	46	53	60	69	76	83	90
τ	18	26	34	42	50	5τ	68	76	84	92	τ0
ϕ	1τ	29	38	47	56	65	74	83	92	τ1	ϕ0
10	20	30	40	50	60	70	80	90	τ0	ϕ0	100

Note that there are no standard duodecimal numerals. The numerals presented here are the set of “argam” numerals invented by Michael Thomas D^e Vlieger for transdecimal bases, between 1992–2007. There are many other proposals for duodecimal numerals.

Tridecimal (Base 13)

Numeral Set:

DECIMAL EQUIVALENT												
0	1	2	3	4	5	6	7	8	9	10	11	12
0	1	2	3	4	5	6	7	8	9	τ	ϕ	ϣ
TRIDECIMAL DIGITS												

1	2	3	4	5	6	7	8	9	τ	ϕ	ϣ	10
2	4	6	8	τ	ϣ	11	13	15	17	19	1τ	20
3	6	9	ϣ	12	15	18	1τ	21	24	27	2τ	30
4	8	ϣ	13	17	1τ	22	26	2τ	31	35	39	40
5	τ	12	17	18	24	29	31	36	3τ	43	48	50
6	ϣ	15	1τ	24	2τ	33	39	42	48	51	57	60
7	11	18	22	29	33	3τ	44	4τ	55	58	66	70
8	13	1τ	26	31	39	44	48	57	62	6τ	75	80
9	15	21	2τ	36	42	4τ	57	63	68	78	84	90
τ	17	24	31	3τ	48	55	62	68	79	86	93	τ0
ϕ	19	27	35	43	51	58	6τ	78	86	94	τ2	ϕ0
ϣ	1τ	2τ	39	48	57	66	75	84	93	τ2	ϕ1	ϣ0
10	20	30	40	50	60	70	80	90	τ0	ϕ0	ϣ0	100

Note that there are no standard tridecimal numerals. The numerals presented here are the set of "argam" numerals invented by Michael Thomas De Vlieger for transdecimal bases, between 1992–2007. There may be other proposals for transdecimal numerals (numerals symbolizing digits greater than 9, used for bases greater than decimal.)

Tetradecimal (Base 14)

Numeral Set:

DECIMAL EQUIVALENT													
0	1	2	3	4	5	6	7	8	9	10	11	12	13
0	1	2	3	4	5	6	7	8	9	τ	ϕ	ϣ	δ
QUADRODECIMAL DIGITS													

1	2	3	4	5	6	7	8	9	τ	ϕ	ϣ	δ	10
2	4	6	8	τ	ϣ	10	12	14	16	18	1τ	18	20
3	6	9	ϣ	11	14	17	1τ	1δ	22	25	28	2τ	30
4	8	ϣ	12	16	1τ	20	24	28	28	32	36	3τ	40
5	τ	11	16	1τ	22	27	28	33	38	3δ	44	49	50
6	ϣ	14	1τ	22	28	30	36	38	44	4τ	52	58	60
7	10	17	20	27	30	37	40	47	50	57	60	67	70
8	12	1τ	24	28	36	40	48	52	5τ	64	68	76	80
9	14	1δ	28	33	38	47	52	5τ	66	71	7τ	85	90
τ	16	22	28	38	44	50	5τ	66	72	78	88	94	τ0
ϕ	18	25	32	3δ	4τ	57	64	71	78	89	96	τ3	ϕ0
ϣ	1τ	28	36	44	52	60	68	7τ	88	96	τ4	ϕ2	ϣ0
δ	18	2τ	3τ	49	58	67	76	85	94	τ3	ϕ2	ϣ1	δ0
10	20	30	40	50	60	70	80	90	τ0	ϕ0	ϣ0	δ0	100

Note that there are no standard quadrodecimal numerals. The numerals presented here are the set of "argam" numerals. There may be other numeral proposals for base 14.

Pentadecimal (Base 15)

Numeral Set:

DECIMAL EQUIVALENT														
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
0	1	2	3	4	5	6	7	8	9	τ	ϕ	ϣ	δ	ε
PENTADECIMAL DIGITS														

1	2	3	4	5	6	7	8	9	τ	ϕ	ϣ	δ	ε	10
2	4	6	8	τ	ϣ	ε	11	13	15	17	19	1τ	1δ	20
3	6	9	ϣ	10	13	16	19	18	20	23	26	29	28	30
4	8	ϣ	11	15	19	1δ	22	26	2τ	2ε	33	37	3τ	40
5	τ	10	15	1τ	20	25	2τ	30	35	3τ	40	45	4τ	50
6	ϣ	13	19	20	26	28	33	39	40	46	48	53	59	60
7	ε	16	1δ	25	28	34	3τ	43	4τ	52	59	61	68	70
8	11	19	22	2τ	33	3τ	44	48	55	5δ	66	6ε	77	80
9	13	18	26	30	39	43	48	56	60	69	73	78	86	90
τ	15	20	2τ	35	40	4τ	55	60	6τ	75	80	8τ	95	τ0
ϕ	17	23	2ε	3τ	46	52	5δ	69	75	81	88	98	τ4	ϕ0
ϣ	19	26	33	40	48	59	66	73	80	88	99	τ6	ϕ3	ϣ0
δ	1τ	29	37	45	53	61	6ε	78	8τ	98	τ6	ϕ4	ϣ2	δ0
ε	1δ	28	4τ	4τ	59	68	77	86	95	τ4	ϕ3	ϣ2	δ1	ε0
10	20	30	40	50	60	70	80	90	τ0	ϕ0	ϣ0	δ0	ε0	100

Note that there are no standard pentadecimal numerals. The numerals presented here are the set of "argam" numerals. There may be other numeral proposals for base 15.

Hexadecimal (Base 16)

Numeral Set:

DECIMAL EQUIVALENT															
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	1	2	3	4	5	6	7	8	9	τ	ϕ	ϣ	δ	ε	ϑ
HEXADECIMAL DIGITS															

1	2	3	4	5	6	7	8	9	τ	ϕ	ϣ	δ	ε	ϑ	10
2	4	6	8	τ	ϣ	ε	10	12	14	16	18	1τ	1ε	20	
3	6	9	ϣ	ϑ	12	15	18	1τ	1ε	21	24	27	2τ	2δ	30
4	8	ϣ	10	14	18	18	20	24	28	28	30	34	38	38	40
5	τ	ϑ	14	19	1ε	23	28	2δ	32	37	38	41	46	4τ	50
6	ϣ	12	18	1ε	24	2τ	30	36	38	42	48	4ε	54	5τ	60
7	ε	15	18	23	2τ	31	38	3ϑ	46	4δ	54	5τ	62	69	70
8	10	18	20	28	30	38	40	48	50	58	60	68	70	78	80
9	12	1τ	24	2δ	36	3ϑ	48	51	5τ	63	68	75	7ε	87	90
τ	14	1ε	28	32	38	46	50	5τ	64	6ε	78	82	88	96	τ0
ϕ	16	21	28	37	42	4δ	58	63	6ε	79	84	8ϑ	9τ	τ5	ϕ0
ϣ	18	24	30	38	48	54	60	68	78	84	90	98	τ8	τ4	ϣ0
δ	1τ	27	34	41	4ε	5τ	68	75	82	8ϑ	98	τ9	τ6	ϣ3	δ0
ε	18	2τ	38	46	54	62	70	7ε	88	9τ	τ8	τ6	ϣ4	δ2	ε0
ϑ	1ε	2δ	38	4τ	5τ	69	78	87	96	τ5	τ4	ϣ3	δ2	ε1	ϑ0
10	20	30	40	50	60	70	80	90	τ0	ϕ0	ϣ0	δ0	ε0	ϑ0	100

The standard hexadecimal digits feature {A, B, C, D, E, F} with respective decimal values of {10, 11, 12, 13, 14, 15}. "Argam" numerals are used here for consistency.

Tetravigesimal (Base 24)

Numeral Set:

DECIMAL EQUIVALENT

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
0	1	2	3	4	5	6	7	8	9	τ	ϕ	χ	θ	ε	ρ	κ	λ	7	ð	γ	ι	β	

TETRAVIGESIMAL DIGITS

1	2	3	4	5	6	7	8	9	τ	ϕ	χ	θ	ε	ρ	κ	λ	7	ð	γ	ι	β	10	
2	4	6	8	τ	χ	ε	ρ	λ	ð	ι	10	12	14	16	18	1τ	1χ	1ε	1ρ	1λ	1ð	1ι	10
3	6	9	χ	ρ	λ	7	10	13	16	19	1χ	1ρ	1λ	17	20	23	26	29	2χ	2ρ	2λ	27	30
4	8	χ	ρ	ð	10	14	18	1χ	1ρ	1ð	20	24	28	2χ	2ρ	2ð	30	34	38	3χ	3ρ	3ð	40
5	τ	ρ	ð	11	16	1τ	1ρ	17	22	27	2χ	2κ	2λ	33	38	3ð	3λ	3β	44	49	4ε	47	50
6	χ	λ	10	16	1χ	1λ	20	26	2χ	2λ	30	36	3χ	3λ	40	46	4χ	4λ	50	56	5χ	5λ	60
7	ε	7	14	1τ	1λ	21	28	2ρ	2λ	35	3χ	37	42	49	4ρ	4β	56	5ð	5ð	63	6τ	6κ	70
8	ρ	10	18	1ρ	20	28	2ρ	30	38	3ρ	40	48	4ρ	50	58	5ρ	60	68	6ρ	70	78	7ρ	80
9	λ	13	1χ	17	26	2ρ	30	39	3λ	43	4χ	47	56	5ρ	60	69	6λ	73	7χ	77	86	8ρ	90
τ	ð	16	1ρ	22	2χ	2λ	38	3λ	44	4ε	50	5τ	5ð	66	6ρ	72	7χ	7λ	88	8λ	94	9ε	τ0
ϕ	ι	19	1ð	27	2λ	35	3ρ	43	4ε	51	5χ	5β	6τ	67	78	77	86	8κ	94	9ρ	τ2	τð	τ0
χ	10	1χ	20	2χ	30	3χ	40	4χ	50	5χ	60	6χ	70	7χ	80	8χ	90	9χ	τ0	τχ	τ0	τχ	χ0
ð	12	1ρ	24	2κ	36	37	48	47	5τ	5β	6χ	71	7ε	83	8ρ	95	9λ	τ7	τð	τ9	τλ	χτ	ð0
ε	14	1λ	28	2λ	3χ	42	4ρ	56	5ð	6τ	70	7ε	84	8λ	98	9λ	τχ	τ2	τρ	χ6	χð	ðτ	ε0
ρ	16	17	2χ	33	3λ	49	50	5ρ	66	67	7χ	83	8λ	99	τ0	τρ	τ6	τ7	χχ	ð3	ðλ	ε9	ρ0
ρ	18	20	2ρ	38	40	4ρ	58	60	6ρ	78	80	8ρ	98	τ0	τρ	τ8	χ0	χρ	ð8	ε0	ερ	ρ8	ρ0
κ	1τ	23	2ð	3ð	46	4β	5ρ	69	72	77	8χ	95	9λ	τρ	τ8	χ1	χλ	ðτ	ε4	ε7	εε	ρ7	κ0
λ	1χ	26	30	3λ	4χ	56	60	6λ	7χ	86	90	9λ	τχ	τ6	χ0	χλ	ðχ	ε6	ρ0	ρλ	ρχ	κ6	λ0
7	1ε	29	34	3β	4λ	5ð	68	73	7λ	8κ	9χ	τ7	τ2	τ7	χρ	ðτ	ε6	ρ1	ρð	ρρ	κτ	λ5	70
ð	1ρ	2χ	38	44	50	5ð	6ρ	7χ	88	94	τ0	τð	τρ	χχ	ð8	ε4	ρ0	ρð	ρρ	κχ	λ8	74	ð0
7	1λ	2ρ	3χ	49	56	63	70	77	8λ	9ρ	τχ	τ9	χ6	ð3	ε0	ε7	ρλ	ρρ	κχ	χ9	76	ð3	70
ι	1ð	2λ	3ρ	4ε	5χ	6τ	78	86	94	τ2	τ0	τλ	χð	ðλ	ερ	ρε	ρχ	κτ	λ8	76	ð4	72	ι0
β	1λ	27	3ð	47	5λ	6κ	7ρ	8ρ	9ε	τð	τχ	χτ	ðτ	ε9	ρ8	ρ7	κ6	λ5	74	ð3	72	χ1	β0
10	20	30	40	50	60	70	80	90	τ0	τ0	χ0	ð0	ε0	ρ0	κ0	λ0	70	ð0	70	χ0	β0	100	

Note that there are no standard tetravigesimal numerals; those used here are the set of "argam" numerals. There may be other proposals for base twenty-four.

On 12 November 2014, I wrote the following Wolfram Mathematica algorithm that automatically generates the text for these tables.

This ensures that the tables are accurate. In the course of revisiting some of the tables that I'd prepared by hand in January 2011, several errors were made. Algorithms have been applied to the multiplication tables of bases 20 and greater, thereby correcting any errors.

For coders and users of Mathematica, here is a quick and easy function that will generate a multiplication table with the same alphanumeric formatting as the ones in this document. The argam numerals are not available in any standard typeface but this function will use lower and uppercase letters for transdecimal numerals.

Range 0 – 9 uses the traditional ten Hindu Arabic numerals.

Range 10 – 35 uses the 26 lowercase letters in the ASCII table.

Range 36 – 62 uses the 26 uppercase letters in the ASCII table.

This arrangement intends to dovetail with Mathematica's "Base-Form" function, even though I've avoided it because it appends notation of base to every result.

Wolfram code:

```
multTable[b_Integer] := Module[{f,
  t = Table[i*j, {i, b}, {j, b}],
  f[c_] := FromCharacterCode[
    Which[# < 10, 48 + #,
    # >= 10 && # < 36, 87 + #,
    # >= 36, 29 + #
    ] & /@ c];
  t = IntegerDigits[#, b] & /@ t;
  Do[
    Do[t[[i]][[j]] = f[t[[i]][[j]]], {j, b}],
  {i, b}]; t];
multTable[insert your base here] // TableForm
```

This document may be freely shared under the terms of the Creative Commons Attribution License, Version 3.0 or greater. See <http://creativecommons.org/licenses/by/3.0/legalcode> regarding the Creative Commons Attribution License.

Pentavigesimal (Base 25)

Numeral Set:

DECIMAL EQUIVALENT

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
0	1	2	3	4	5	6	7	8	9	ϕ	ϕ	ϕ	ϕ	ε	ε	ρ	ρ	λ	ϕ	ϕ	γ	λ	β	ϕ
PENTAVIGESIMAL DIGITS																								

1	2	3	4	5	6	7	8	9	ϕ	ϕ	ϕ	ϕ	ε	ε	ρ	ρ	λ	ϕ	ϕ	γ	λ	β	ϕ	10	
2	4	6	8	ϕ	ϕ	ε	ρ	λ	ϕ	λ	ϕ	11	13	15	17	19	1ϕ	1ϕ	1ϕ	1ρ	1ρ	1ρ	1ρ	20	
3	6	9	ϕ	ε	λ	7	ϕ	12	15	18	1ϕ	1ε	1ρ	1ϕ	1β	21	24	27	2ϕ	2ϕ	2ϕ	2λ	2λ	30	
4	8	ϕ	ρ	ϕ	ϕ	13	17	1ϕ	1ϕ	1ϕ	1β	22	26	2ϕ	2ε	2λ	2λ	31	35	39	3ϕ	3ρ	3ρ	40	
5	ϕ	ε	ϕ	10	15	1ϕ	1ϕ	1ϕ	20	25	2ϕ	2ϕ	2ϕ	30	35	3ϕ	3ϕ	3ϕ	40	45	4ϕ	4ϕ	4ϕ	50	
6	ϕ	λ	ϕ	15	1ϕ	1ρ	1β	24	2ϕ	2ρ	2λ	33	39	3ϕ	37	42	48	4ε	4ϕ	51	57	5ϕ	5ρ	60	
7	ε	7	13	1ϕ	1ρ	1ϕ	1ϕ	26	2ϕ	32	39	3ρ	3β	45	4λ	47	51	58	5ρ	5λ	64	6ϕ	6λ	70	
8	ρ	ϕ	17	1ϕ	1β	26	2ε	2λ	35	3ϕ	37	44	4λ	4ϕ	53	5ϕ	5ρ	62	6ϕ	6λ	71	79	7ρ	80	
9	λ	12	1ϕ	1ϕ	24	2ϕ	2λ	36	3ϕ	3ϕ	48	4ρ	51	5ϕ	57	63	6λ	67	75	7ε	7β	87	8ρ	90	
ϕ	ϕ	15	1ϕ	20	2ϕ	2ϕ	35	3ϕ	40	4ϕ	4ϕ	55	5ρ	60	6ϕ	6ϕ	75	7ρ	80	8ϕ	8ϕ	95	9ρ	ϕ0	
ϕ	λ	18	17	25	2ρ	32	3ϕ	3ϕ	4ϕ	47	57	5λ	64	6ρ	71	7λ	7β	89	8ϕ	96	9ρ	ϕ3	ϕε	ϕ0	
ϕ	ϕ	1ϕ	1β	2ϕ	2λ	39	37	48	4ϕ	57	5ρ	66	6λ	75	7ρ	84	8ρ	93	9ρ	ϕ2	ϕε	ϕ1	ϕϕ	ϕ0	
ϕ	11	1ε	22	2ρ	33	3ρ	44	4ρ	55	5λ	66	6ρ	77	7ϕ	88	87	99	9λ	ϕϕ	ϕβ	ϕϕ	ϕϕ	ϕϕ	ϕ0	
ε	13	1ρ	26	2ϕ	39	3β	4λ	51	5ρ	64	6λ	77	7ρ	8ϕ	8λ	9ϕ	ϕ2	ϕρ	ϕ5	ϕρ	ϕλ	ϕλ	ϕϕ	ε0	
ε	15	1ϕ	2ϕ	30	3ρ	45	4ϕ	5ϕ	60	6ρ	75	7ϕ	8ϕ	90	9ρ	ϕ5	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ε0	
ρ	17	1β	2ε	35	37	4λ	53	5ρ	6ϕ	71	7ρ	88	8λ	9ρ	ϕ6	ϕλ	ϕϕ	ϕλ	ϕϕ	ϕϕ	ε2	ελ	ερ	ρ0	
ρ	19	21	2λ	3ϕ	42	47	5ϕ	63	6ϕ	7λ	84	87	9ϕ	ϕ5	ϕλ	ϕε	ϕβ	ϕβ	ϕρ	ε7	ελ	ερ	ρ8	ρ0	
λ	1ϕ	24	2λ	3ρ	48	51	5ρ	6λ	75	7β	8ρ	99	ϕ2	ϕϕ	ϕϕ	ϕβ	ϕλ	ϕλ	ϕλ	ε3	ε7	ρε	ρ7	λ0	
ϕ	1ϕ	27	31	3ϕ	4ε	58	62	67	7ρ	89	93	9λ	ϕρ	ϕϕ	ϕλ	ϕβ	ϕλ	εϕ	ε5	ελ	ρλ	ρλ	λ6	ϕ0	
ϕ	1ρ	2ϕ	35	40	4ϕ	5ρ	6ϕ	75	80	8ϕ	9ρ	ϕϕ	ϕ5	ϕ0	ϕϕ	ϕρ	εϕ	ε5	ρ0	ρϕ	ρρ	λϕ	ϕ5	ϕ0	
7	1ρ	2ϕ	39	45	51	5λ	6λ	7ε	8ϕ	96	ϕ2	ϕβ	ϕρ	ϕρ	ϕϕ	ε7	ε7	ε3	ελ	ρϕ	ρρ	λλ	ϕ8	ϕ4	70
λ	1ρ	2ρ	3ϕ	4ϕ	57	64	71	7β	8ϕ	9ρ	ϕε	ϕε	ϕϕ	ϕλ	ε2	ελ	ε7	ρλ	ρρ	λλ	ϕ9	ϕ6	73	λ0	
β	17	2ρ	3ρ	4ρ	5ϕ	6ϕ	79	87	95	ϕ3	ϕ1	ϕλ	ϕλ	ϕϕ	ελ	ερ	ρε	ρλ	ρλ	ϕ8	ϕ6	74	λ2	β0	
ϕ	1β	2λ	37	4ϕ	5ρ	6λ	7ρ	8ρ	9ρ	ϕε	ϕϕ	ϕλ	ϕλ	εϕ	ε9	ρ8	ρ7	λ6	ϕ5	ϕ4	73	λ2	β1	ϕ0	
10	20	30	40	50	60	70	80	90	ϕ0	ϕ0	ϕ0	ϕ0	ε0	ε0	ρ0	ρ0	λ0	ϕ0	ϕ0	70	λ0	β0	ϕ0	100	

Note that there are no standard pentavigesimal numerals; those used here are the set of "argam" numerals. There may be other proposals for base twenty-five.

Hexavigesimal (Base 26)

Numeral Set:

DECIMAL EQUIVALENT

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
0	1	2	3	4	5	6	7	8	9	Ϙ	ϙ	Ϛ	ϛ	ε	ϑ	ρ	ϕ	Ϙ	ϙ	Ϛ	ϛ	γ	ι	β	ϛ	ϛ
HEXAVIGESIMAL DIGITS																										

1	2	3	4	5	6	7	8	9	Ϙ	ϙ	Ϛ	ϛ	ε	ϑ	ρ	ϕ	Ϙ	ϙ	Ϛ	ϛ	γ	ι	β	ϛ	ϛ	10
2	4	6	8	Ϙ	ϙ	ε	ρ	ϕ	Ϙ	ϙ	Ϛ	ϛ	12	14	16	18	1Ϙ	1ϙ	1Ϛ	1ϛ	1ε	1ρ	1ϕ	1Ϙ	1ϙ	20
3	6	9	ϙ	ϑ	Ϙ	7	ϙ	11	14	17	1Ϙ	1Ϛ	1ρ	17	1ϙ	1ϛ	22	25	28	2Ϙ	2ε	2ρ	2ϑ	2Ϛ	2β	30
4	8	ϙ	ρ	ϑ	ϙ	12	16	1Ϙ	1ε	1ϙ	1ϙ	20	24	28	2ϙ	2ρ	2ϑ	2ϙ	32	36	3Ϙ	3ε	3ϙ	3ϙ	3ϙ	40
5	Ϙ	ϑ	ϑ	ϛ	14	19	1ε	17	1ϙ	23	28	2ϑ	2ϙ	2β	32	37	3ϙ	3ϕ	3ϙ	41	46	4Ϙ	4ρ	47	47	50
6	ϙ	ϙ	ϙ	14	1Ϙ	1ρ	1ϙ	22	28	2ε	2ϑ	30	36	3ϙ	3ϙ	3ϙ	44	4Ϙ	4ρ	4ϙ	52	58	5ε	5ϑ	5ϑ	60
7	ε	7	12	19	1ρ	1β	24	2Ϙ	2ϙ	2ϛ	36	3ϑ	3ϑ	41	48	4ϑ	4ϙ	53	5Ϙ	5ϕ	5ϙ	65	6ϙ	67	70	
8	ρ	ϙ	16	1ε	1ϙ	24	2ϙ	2ϑ	32	3Ϙ	3ϙ	40	48	4ρ	4ϙ	56	5ε	5ϙ	64	6ϙ	6ϑ	72	7Ϙ	7ϙ	80	
9	ϙ	11	1Ϙ	17	22	2Ϙ	2ϑ	33	3ϙ	37	44	4ϑ	4ϙ	55	5ε	5β	66	6ϑ	6ϙ	77	7ρ	7ϛ	88	8ϕ	90	
Ϙ	ϑ	14	1ε	1ϙ	28	2ϙ	32	3ϙ	3ϙ	46	4ρ	50	5Ϙ	5ϑ	64	6ε	6ϙ	78	7ϙ	82	8ϙ	8ϙ	96	9ρ	Ϙ0	
ϙ	ϙ	17	1ϙ	23	2ε	2ϛ	3Ϙ	37	46	4ϕ	52	5ϑ	5ϙ	69	6ϑ	75	7ρ	81	8ϙ	8β	98	9ϕ	Ϙ4	Ϙϑ	Ϙ0	
ϙ	ϙ	1Ϙ	1ϙ	28	2ϑ	36	3ϙ	44	4ρ	52	5ε	60	6ϙ	6ϙ	7Ϙ	7ϙ	88	8ϑ	96	9ϙ	Ϙ4	Ϙρ	ϘϘ	Ϙϙ	ϙ0	
ϑ	10	1ϑ	20	2ϑ	30	3ϑ	40	4ϑ	50	5ϑ	60	6ϑ	70	7ϑ	80	8ϑ	90	9ϑ	Ϙ0	Ϙϑ	Ϙ0	Ϙϑ	ϙ0	ϙϑ	ϙ0	
ε	12	1ρ	24	2ϙ	36	3ϑ	48	4ϙ	5Ϙ	5ϙ	6ϙ	70	7ε	82	8ρ	94	9ϙ	Ϙ6	Ϙϑ	Ϙ8	ϙϙ	ϙϙ	ϙϙ	ϙϙ	ε0	
ϑ	14	17	28	2β	3ϙ	41	4ρ	55	5ϑ	69	6ϙ	7ϑ	82	8ϕ	96	97	ϘϘ	Ϙϛ	Ϙϛ	ϙ3	ϙϙ	ϙ7	ϙϙ	εϘ	ϑ0	
ρ	16	1ϙ	2ϙ	32	3ϙ	48	4ϙ	5ε	64	6ϑ	7Ϙ	80	8ρ	96	9ϙ	Ϙϙ	ϘϘ	ϘϘ	ϙϙ	ϙϙ	ϙε	ϙ4	ϙϑ	ϙϘ	ρ0	
ϕ	18	1ϛ	2ρ	37	3ϙ	4ϑ	56	5β	6ε	75	7ϙ	8ϑ	94	97	Ϙϙ	Ϙ3	Ϙϑ	ϙϘ	ϙ2	ϙ7	ϙϙ	ϙ1	ϙϙ	ϕ0	ϕ0	
ϙ	1Ϙ	22	2ϑ	3ϙ	44	4ϙ	5ε	66	6ϙ	7ρ	88	90	9ϙ	ϘϘ	ϘϘ	Ϙϑ	ϙϙ	ϙ4	ϙϙ	εε	ϑ6	ϑϙ	ϕρ	ϕ8	ϙ0	
ϙ	1ϙ	25	2ϙ	3ϕ	4Ϙ	53	5ϙ	6ϑ	78	81	8ϑ	9ϑ	Ϙ6	Ϙϛ	Ϙϙ	ϙϙ	ϙ4	ϙϙ	ϙϙ	ϑ9	ϕ2	ϕ7	ϕε	ϙ7	ϙ0	
ϑ	1ε	28	32	3ϙ	4ρ	5Ϙ	64	6ϙ	7ϙ	8ϙ	96	Ϙ0	Ϙϑ	Ϙε	ϙ8	ϙ2	ϙϙ	ϙρ	ϑϙ	ϕ4	ϕϙ	ϕϙ	ϙϙ	ϙ6	ϑ0	
7	1ρ	2Ϙ	36	41	4ϙ	5ϕ	6ϙ	77	82	8β	9ϙ	Ϙϑ	Ϙ8	ϙ3	ϙϙ	ϙ7	εε	ϑ9	ϕ4	ϕϙ	ϕϙ	ϕϙ	ϕϙ	ϕϙ	70	
ϙ	1ϙ	2ε	3Ϙ	46	52	5ϙ	6ϑ	7ρ	8ϙ	98	Ϙ4	Ϙ0	Ϙϙ	ϙϙ	ϙε	εϘ	ϑ6	ϕ2	ϕϙ	ϕϑ	ϕϙ	ϕϙ	ϕϙ	ϕϙ	ϙ0	
β	1ϑ	2ϕ	3ε	4Ϙ	58	65	72	7ϛ	8ϙ	97	Ϙρ	Ϙϑ	ϙϘ	ϙ7	ε4	ϑ1	ϑϙ	ϕ7	ϕϙ	ϕϙ	ϕϙ	ϕϙ	ϕϙ	ϕϙ	β0	
ϙ	1ϙ	2ϑ	3ϙ	4ρ	5ε	6ϙ	7Ϙ	88	96	Ϙ4	ϘϘ	ϙ0	ϙϙ	ϙϙ	εϑ	ϑϙ	ϕρ	ϕε	ϙϙ	ϕϘ	ϑ8	76	ϙ3	β2	ϙ0	
ϛ	1ϙ	2β	3ϙ	47	5ϑ	67	7ϙ	8ϕ	9ρ	Ϙϑ	Ϙε	ϙϑ	ϙϙ	εϘ	ϑ9	ϕ8	ϕ8	ϙ7	ϕ6	ϕϙ	ϕϙ	ϕϙ	ϕϙ	ϕϙ	ϛ0	
10	20	30	40	50	60	70	80	90	Ϙ0	ϙ0	ϙ0	ϑ0	ε0	ϑ0	ρ0	ϕ0	ϙ0	ϙ0	ϙ0	ϙ0	ϙ0	ϙ0	ϙ0	ϙ0	ϙ0	100

Note that there are no standard hexavigesimal numerals; those used here are the set of "argam" numerals. There may be other proposals for base twenty-six.

This document may be freely shared under the terms of the Creative Commons Attribution License, Version 3.0 or greater. See <http://creativecommons.org/licenses/by/3.0/legalcode> regarding the Creative Commons Attribution License.

Heptavigesimal (Base 27)

Numeral Set:

DECIMAL EQUIVALENT																										
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0	1	2	3	4	5	6	7	8	9	ϙ	ϙ	ϙ	ϙ	ε	ε	ρ	ρ	λ	7	ϙ	γ	χ	β	ϙ	5	6
HEPTAVIGESIMAL DIGITS																										

1	2	3	4	5	6	7	8	9	ϙ	ϙ	ϙ	ϙ	ε	ε	ρ	ρ	λ	7	ϙ	γ	χ	β	ϙ	5	6	10
2	4	6	8	ϙ	ϙ	ε	ρ	λ	ϙ	χ	β	11	13	15	17	19	1ϙ	1ϙ	1ϙ	1ϙ	17	17	1ϙ	15	20	20
3	6	9	ϙ	ε	λ	7	ϙ	10	13	16	19	18	1ε	1λ	17	18	20	23	26	29	28	2ε	2λ	27	28	30
4	8	ϙ	ρ	ϙ	ϙ	11	15	19	1ϙ	1ρ	17	15	22	26	2ϙ	2ε	2λ	2χ	2β	33	37	3ϙ	3ε	3β	40	40
5	ϙ	ε	ϙ	5	13	18	1ϙ	1λ	1β	21	26	2ϙ	2ρ	27	2β	34	39	3ε	37	38	42	47	48	4ρ	4χ	50
6	ϙ	λ	ϙ	13	19	1ε	17	20	26	28	2λ	28	33	39	3ε	37	40	46	48	4λ	48	53	59	5ε	57	60
7	ε	7	11	18	1ε	1χ	22	29	2ρ	2β	33	3ϙ	3ρ	38	44	4ϙ	4λ	45	55	58	57	5β	66	6ϙ	6ϙ	70
8	ρ	ϙ	15	1ϙ	17	22	2ϙ	2λ	2β	37	3ε	3β	44	48	4ϙ	51	59	5ρ	55	66	6ε	6χ	73	7ϙ	77	80
9	λ	10	19	1λ	20	29	2λ	30	39	3λ	40	49	4λ	50	59	5λ	60	69	6λ	70	79	7λ	80	89	8λ	90
ϙ	ϙ	13	1ϙ	1β	26	2ρ	2β	39	37	42	48	4χ	55	5ε	55	68	6λ	71	7ϙ	77	84	8ε	88	97	9ρ	ϙ0
ϙ	χ	16	1ρ	21	28	2β	37	3λ	42	4ϙ	48	58	57	63	6ε	65	79	7ϙ	84	8ε	8β	9ϙ	97	ϙ5	ϙρ	ϙ0
ϙ	ϙ	19	17	26	2λ	33	3ε	40	48	48	59	57	66	6λ	73	7ε	80	88	88	99	97	ϙ6	ϙλ	ϙ3	ϙε	ϙ0
ϙ	β	18	15	2ϙ	28	3ϙ	3β	49	4χ	58	57	67	6ϙ	76	77	85	8λ	94	9ρ	ϙ3	ϙρ	ϙ2	ϙε	ϙ1	ϙε	ϙ0
ε	11	1ε	22	2ρ	33	3ρ	44	4λ	55	57	66	6ϙ	77	77	88	8χ	99	9β	ϙϙ	ϙ8	ϙ5	ϙ8	ϙβ	ϙϙ	ε0	ε0
ε	13	1λ	26	27	39	38	48	50	5ε	63	6λ	76	77	89	88	98	ϙ0	ϙε	ϙ3	ϙλ	ϙ6	ϙ7	ϙ9	ϙ8	ελ	ε0
ρ	15	17	2ϙ	2β	3ε	44	4ϙ	59	55	6ε	73	77	88	88	9ϙ	ϙ2	ϙλ	ϙ7	ϙβ	ϙ8	ϙ1	ϙρ	ε6	εχ	ερ	ρ0
ρ	17	18	2ε	34	37	4ϙ	51	5λ	68	65	7ε	85	8χ	98	ϙ2	ϙ7	ϙ9	ϙβ	ϙρ	ϙ6	ϙβ	εϙ	ε3	εϙ	ρϙ	ρ0
λ	19	20	2λ	39	40	4λ	59	60	6λ	79	80	8λ	99	ϙ0	ϙλ	ϙ9	ϙ0	ϙλ	ϙ9	ε0	ελ	ε9	ρ0	ρλ	ρ9	λ0
7	1ϙ	23	2χ	3ε	46	45	5ρ	69	71	7ϙ	88	94	9β	ϙε	ϙ7	ϙβ	ϙλ	ϙϙ	ε2	ελ	εε	εϙ	ρ5	ρ8	ρ	70
ϙ	1ϙ	26	2β	37	48	55	55	6λ	7ϙ	84	88	9ρ	ϙϙ	ϙ3	ϙβ	ϙρ	ϙ9	ε2	εχ	εε	ρ8	ρ1	ρ7	λε	77	ϙ0
7	1ε	29	33	38	4λ	58	66	70	77	8ε	99	ϙ3	ϙ8	ϙλ	ϙ8	ϙ6	ε0	ε7	εε	ρ9	ρ3	ρ8	λλ	78	ϙ6	70
χ	1ρ	28	37	42	48	57	6ε	79	84	8β	97	ϙρ	ϙϙ	ϙ6	ϙ1	ϙβ	ελ	εϙ	ρ8	ρ3	ρ5	ρ3	ρ5	λϙ	7ϙ	χ0
β	17	2ε	3ϙ	47	53	5β	6χ	7λ	8ε	9ϙ	ϙ6	ϙ2	ϙ5	ϙ7	ϙρ	εϙ	ε9	ρ5	ρ1	ρ8	λϙ	7ρ	δ8	78	χ4	β0
ϙ	17	2λ	3ε	48	59	66	73	80	88	97	ϙλ	ϙε	ϙ8	ϙ9	ε6	ε3	ρ0	ρ8	ρ7	λλ	7ε	δ8	79	λ6	β3	ϙ0
5	1β	27	37	4ρ	5ε	6ϙ	7ϙ	89	97	ϙ5	ϙ3	ϙ1	ϙβ	δ8	εχ	εϙ	ρλ	ρ	λε	78	δϙ	78	λ6	β4	λ2	50
β	15	28	3β	4χ	57	6ϙ	77	8λ	9ρ	ϙρ	ϙε	ϙε	δδ	ε8	εϙ	ρϙ	ρ9	λ8	77	δ6	75	χ4	β3	λ2	51	β0
10	20	30	40	50	60	70	80	90	ϙ0	ϙ0	ϙ0	δ0	ε0	ε0	ρ0	ρ0	λ0	70	δ0	70	λ0	β0	ϙ0	50	β0	100

Note that there are no standard heptavigesimal numerals; those used here are the set of "argam" numerals. There may be other proposals for base twenty-seven.

This document may be freely shared under the terms of the Creative Commons Attribution License, Version 3.0 or greater. See <http://creativecommons.org/licenses/by/3.0/legalcode> regarding the Creative Commons Attribution License.

Octovigesimal (Base 28)

Numeral Set:

DECIMAL EQUIVALENT																											
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
0	1	2	3	4	5	6	7	8	9	τ	ϕ	δ	ε	ρ	κ	λ	γ	θ	γ	χ	ς	β	ξ	ς	β	ζ	
OCTOVIGESIMAL DIGITS																											

1	2	3	4	5	6	7	8	9	τ	ϕ	δ	ε	ρ	κ	λ	γ	θ	γ	χ	ς	β	ξ	ς	β	ζ	10			
2	4	6	8	τ	ϕ	ε	ρ	λ	θ	χ	β	10	12	14	16	18	1τ	1ε	1ρ	1λ	1θ	1χ	1ς	1β	1ξ	1ς	1β	1ζ	20
3	6	9	ϕ	ρ	λ	7	ξ	ζ	12	15	18	1τ	1ε	1κ	1β	18	21	24	27	2τ	2θ	2ρ	2γ	2ξ	2ς	2β	2ζ	30	
4	8	ξ	ρ	θ	ξ	10	14	18	1λ	1ρ	1θ	1ξ	20	24	28	2λ	2ρ	2θ	2ξ	30	34	38	3λ	3ρ	3θ	3ξ	40		
5	τ	ρ	θ	ς	12	17	1λ	1κ	1χ	1ζ	24	29	2ε	2γ	2ξ	31	36	3τ	3ρ	3γ	3β	43	48	4θ	4λ	4β	50		
6	ϕ	λ	ξ	12	18	1ε	1θ	18	24	2τ	2ρ	2λ	30	36	3λ	3λ	3ξ	42	48	4ε	4θ	4β	54	5τ	5ρ	5λ	60		
7	ε	γ	10	17	1ε	17	20	27	2ε	2γ	30	37	3ε	3γ	40	47	4ε	4γ	50	57	5ε	5γ	60	67	6ε	6γ	70		
8	ρ	ξ	14	1λ	1θ	20	28	2ρ	2ξ	34	3λ	3θ	40	48	4ρ	4ξ	54	5λ	5θ	60	68	6ρ	6ξ	74	7λ	7θ	80		
9	λ	ζ	18	1κ	18	27	2ρ	2ς	36	3ρ	3ξ	45	4ε	4β	54	5θ	5λ	63	6λ	6γ	72	7τ	7θ	81	8τ	8γ	90		
τ	θ	12	1λ	1χ	24	2ε	2ξ	36	3ρ	3β	48	4λ	50	5τ	5θ	62	6λ	74	7ε	7λ	86	8ρ	8β	98	9λ	τ0			
ϕ	χ	15	1ρ	1ζ	2τ	2γ	34	3ρ	3β	49	4θ	53	5ε	5ς	68	6γ	72	7θ	7ξ	87	8λ	91	9λ	9β	τ6	τκ	τ0		
ξ	ξ	18	1θ	24	2ρ	30	3λ	3ξ	48	4θ	54	5ρ	60	6λ	6λ	78	7θ	84	8ρ	90	9λ	9λ	τ8	τθ	τ4	τρ	ξ0		
θ	β	1τ	1λ	29	2λ	37	3θ	45	4λ	53	5ρ	61	6ε	6ζ	7λ	7ς	8τ	8β	98	9γ	τ6	τγ	τ4	τκ	ξ2	ξρ	θ0		
ε	10	1ε	20	2ε	30	3ε	40	4ε	50	5ε	60	6ε	70	7ε	80	8ε	90	9ε	τ0	τε	τ0	τε	λ0	λε	θ0	δε	ε0		
ρ	12	1κ	24	2γ	36	3γ	48	4β	5τ	5ς	6λ	6ζ	7ε	81	8ρ	93	9λ	τ5	τθ	τ7	τλ	λ9	λξ	θτ	θβ	εθ	ρ0		
κ	14	1θ	28	2ξ	3λ	4ρ	54	5θ	68	6λ	7λ	80	8ρ	94	9θ	τ8	τλ	τλ	λ0	λρ	θ4	θθ	ε8	ελ	ρλ	ρ0			
λ	16	1β	2λ	31	3λ	47	4λ	5θ	62	6γ	78	7ς	8ε	93	9θ	τ9	τβ	τρ	λ4	λγ	θτ	θζ	ερ	ες	ρλ	κ0			
λ	18	18	2ρ	36	3ξ	4ε	54	5λ	6λ	72	7θ	8τ	90	9λ	τ8	τβ	τρ	λ6	λξ	θε	ε4	ελ	ρλ	ρ2	ρθ	κτ	λ0		
γ	1τ	21	2θ	3τ	42	4γ	5λ	63	6λ	7θ	84	8β	9ε	τ5	τλ	τρ	λ6	λς	θρ	ε7	εβ	ρκ	ρ8	ρζ	κλ	λ9	γ0		
θ	1λ	24	2ξ	3ρ	48	50	5θ	6λ	74	7ξ	8ρ	98	τ0	τθ	τλ	λ4	λξ	θρ	ε8	ε0	ρθ	κ4	κλ	λρ	γ8	θ0			
γ	1ε	27	30	3γ	4ε	57	60	6γ	7ε	87	90	9γ	τε	τ7	λ0	λγ	θε	ε7	ε0	ργ	κ7	λ0	λγ	γε	θ7	γ0			
χ	1ρ	2τ	34	3β	4θ	5ε	68	72	7λ	8λ	9λ	τ6	τ0	τλ	λρ	θτ	ε4	εβ	ρθ	ρε	κ8	λ2	λξ	γλ	θλ	γ6	χ0		
β	1λ	2θ	38	43	4ε	57	6ρ	7τ	86	91	9λ	τ7	τε	λ9	θ4	θζ	ελ	ρκ	ρλ	κ7	λ2	λς	ξθ	θρ	γτ	λ5	β0		
ξ	1θ	2ρ	3λ	48	54	60	6λ	7θ	8ρ	9λ	τ8	τ4	λ0	λξ	θθ	ερ	ρλ	ρ8	κ4	λ0	λξ	γθ	θρ	γλ	λ8	β4	ξ0		
ς	1λ	2γ	3ρ	4θ	5τ	67	74	81	8β	9β	τθ	τκ	λε	θτ	ε8	ες	ρ2	ρζ	κλ	λ7	γλ	θρ	γλ	λ9	β6	ξ3	ς0		
β	1λ	2λ	3θ	4λ	5ρ	6ε	7λ	8τ	98	τ6	τ4	λ2	θ0	θβ	ελ	ρλ	κλ	λρ	γε	θλ	γτ	λ8	β6	λ4	ξ4	ς2	β0		
ζ	18	2ς	3λ	4β	5λ	6γ	7θ	8γ	9λ	τκ	τρ	λρ	θε	εθ	ρλ	κτ	λ9	γ8	θ7	γ6	λς	β4	ξ3	ς2	β1	ζ0			
10	20	30	40	50	60	70	80	90	τ0	τ0	λ0	θ0	ε0	ε0	ρ0	κ0	λ0	γ0	θ0	γ0	λ0	β0	ξ0	ς0	β0	ζ0	100		

Note that there are no standard octovigesimal numerals; those used here are the set of "argam" numerals. There may be other proposals for base twenty-eight.

This document may be freely shared under the terms of the Creative Commons Attribution License, Version 3.0 or greater. See <http://creativecommons.org/licenses/by/3.0/legalcode> regarding the Creative Commons Attribution License.

Enneavigesimal (Base 29)

Numeral Set:

DECIMAL EQUIVALENT																													
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
0	1	2	3	4	5	6	7	8	9	ϳ	ϳ	ϳ	δ	ε	ρ	ρ	ρ	ρ	ϳ	ϳ	ϳ	ϳ	ϳ	ϳ	ϳ	ϳ	ϳ	ϳ	ϳ
ENNEAVIGESIMAL DIGITS																													

1	2	3	4	5	6	7	8	9	ϳ	ϳ	δ	ε	ρ	ρ	ρ	ϳ	ϳ	ϳ	ϳ	ϳ	ϳ	ϳ	ϳ	ϳ	ϳ	ϳ	ϳ	ϳ	ϳ	
2	4	6	8	ϳ	ϳ	ε	ρ	ρ	δ	ϳ	ϳ	ε	11	13	15	17	19	1ϳ	1δ	1ε	1ρ	1ϳ	1ϳ	1ϳ	1ϳ	1ϳ	1ϳ	1ϳ	1ϳ	1ϳ
3	6	9	ϳ	ρ	ρ	7	ϳ	ϳ	ϳ	11	14	17	1ϳ	1δ	1ρ	17	1ϳ	1ϳ	1ε	22	25	28	2ϳ	2ε	2ρ	2ϳ	2δ	2ε	2ρ	2ϳ
4	8	ϳ	ρ	δ	ϳ	ε	13	17	1ϳ	1ε	1ρ	17	1ε	1ρ	1ε	22	26	2ϳ	2ε	2ρ	2ϳ	28	31	35	39	3δ	3ε	3ρ	3ϳ	3δ
5	ϳ	ρ	δ	ϳ	11	16	1ϳ	1ρ	17	18	22	27	2δ	2ε	2ρ	2ϳ	2ϳ	2ϳ	33	38	3δ	3ρ	3ε	44	49	4ε	47	4ϳ	50	
6	ϳ	ρ	ϳ	11	17	1δ	17	1ϳ	22	28	2ε	2δ	28	33	39	3ρ	37	3ϳ	44	4ϳ	4ρ	4ϳ	4ε	55	5ϳ	5ε	5ρ	5ϳ	60	
7	ε	7	ε	16	1δ	1δ	1ϳ	25	28	27	28	34	3ϳ	3ρ	3ϳ	43	4ϳ	4ρ	4ϳ	48	52	59	5ρ	5ε	61	68	6ρ	6ϳ	70	
8	ρ	ϳ	13	1ϳ	17	1ε	2ϳ	2ε	2ϳ	31	39	3ε	3ϳ	44	48	4δ	4ε	57	5ρ	5ε	62	6ϳ	6ρ	6ρ	68	75	7δ	77	80	
9	ρ	ϳ	17	1ρ	1ϳ	25	2ε	2ε	2ε	33	38	37	41	4ϳ	47	4ε	58	5ε	58	66	6ρ	6ϳ	74	7δ	7ϳ	82	8ϳ	8δ	90	
ϳ	δ	11	1ϳ	17	22	28	2ϳ	33	3δ	3ε	44	4ε	4ϳ	55	5ρ	5ϳ	66	6ρ	68	77	7ε	7ε	7ε	88	8ε	99	97	ϳ0		
ϳ	ϳ	14	1ρ	18	28	27	31	38	3ε	45	4ρ	4ε	59	5δ	62	6δ	6ϳ	76	7ε	7ε	8ϳ	8ϳ	93	9ε	9ϳ	ϳ7	ϳε	ϳρ	ϳ0	
ϳ	ϳ	17	17	22	2ε	28	39	37	44	4ρ	4ε	5ϳ	5ε	66	6ρ	71	7δ	7ϳ	88	8δ	93	9ρ	9ε	ϳϳ	ϳϳ	ϳε	ϳε	ϳρ	ϳ0	
δ	ε	1ϳ	1ε	27	2δ	34	3ε	41	4ε	4ε	5ϳ	5ϳ	5ϳ	68	67	75	7ρ	82	8ρ	8ε	98	9ϳ	ϳ9	ϳε	ϳ6	ϳ7	δ3	δρ	δ0	
ε	ε	1δ	1ε	28	28	3ϳ	3ϳ	4ϳ	4ϳ	59	5ε	68	6ϳ	77	77	77	86	8δ	95	97	ϳ4	ϳε	ϳε	ϳε	ϳε	δρ	δ1	δρ	ε0	
ρ	11	1ρ	22	2ε	33	3ρ	44	47	55	5δ	66	67	77	7ϳ	88	8ε	99	9ϳ	ϳϳ	ϳε	ϳε	ϳε	ϳε	ϳε	δδ	δε	εε	ερ	ε0	
ρ	13	17	26	2ϳ	39	3ϳ	48	4ε	5ρ	62	6ρ	75	77	88	88	9ϳ	9ϳ	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ρ0	ρ0	ρ0
ρ	15	1ϳ	2ϳ	2ε	3ρ	43	4δ	58	5ϳ	6δ	71	7ρ	86	8ε	9ϳ	9ε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ρ4	ρ4	ρ4
ρ	17	1ϳ	2ε	33	37	4ϳ	4ε	5ε	66	6ϳ	7δ	82	8δ	99	9ε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ρ4	ρ4	ρ4
ρ	19	1ε	2ρ	38	3ε	4ε	57	58	6ρ	76	7ϳ	8ρ	95	9ϳ	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ρ4	ρ4	ρ4
δ	1ϳ	22	2ϳ	3δ	44	4ϳ	5ρ	66	68	7ε	88	8ε	97	ϳϳ	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ρ4	ρ4	ρ4
7	1δ	25	28	3ρ	4ϳ	52	5ε	6ρ	77	7ε	8δ	9ϳ	ϳ4	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ρ4	ρ4	ρ4
ϳ	1ρ	28	31	3ε	4ρ	59	62	6ϳ	7ε	8ϳ	93	9ϳ	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ρ4	ρ4	ρ4
ε	1ε	2ϳ	3ε	3ε	4ϳ	5ρ	6ϳ	74	7ε	87	9ρ	ϳ9	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ρ4	ρ4	ρ4
ϳ	17	2ε	39	44	4ε	5ε	6ρ	7δ	88	93	9ε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ρ4	ρ4	ρ4
ϳ	17	2ε	3δ	49	55	61	68	7ϳ	8ρ	9ε	ϳϳ	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ρ4	ρ4	ρ4
ε	1ε	2δ	3ε	4ε	5ϳ	68	75	82	8ε	9ϳ	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ρ4	ρ4	ρ4
ε	15	2ε	37	47	5ε	6ρ	7δ	8ϳ	99	ϳ7	ϳε	ϳε	δ1	δε	ε8	εϳ	ρ4	ρ4	ρ4	ρ4	ρ4	ρ4	ρ4	ρ4	ρ4	ρ4	ρ4	ρ4	ρ4	ρ4
ε	1ε	28	3ε	4ϳ	5ε	6ε	77	8δ	97	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ϳε	ρ4	ρ4	ρ4
10	20	30	40	50	60	70	80	90	ϳ0	ϳ0	ϳ0	δ0	ε0	ε0	ρ0	ρ0	ρ0	ρ0	ρ0	ρ0	ρ0	ρ0	ρ0	ρ0	ρ0	ρ0	ρ0	ρ0	ρ0	ρ0

Note that there are no standard enneavigesimal numerals; those used here are the set of "argam" numerals. There may be other proposals for base twenty-nine.

Trigesimal (Base 30)

Numeral Set:

DECIMAL EQUIVALENT

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
0	1	2	3	4	5	6	7	8	9	τ	ϕ	ϛ	θ	ε	ρ	κ	λ	7	θ	γ	ι	β	ϛ	ς	ε	ζ	ε	ι	
TRIGESIMAL DIGITS																													

1	2	3	4	5	6	7	8	9	τ	ϕ	ϛ	θ	ε	ρ	κ	λ	7	θ	γ	ι	β	ϛ	ς	ε	ζ	ε	ι	10		
2	4	6	8	τ	ϛ	ε	ρ	λ	θ	ι	ϛ	ε	10	12	14	16	18	17	18	1ε	1ρ	1λ	1θ	1ι	1β	1ϛ	1ς	1ε	1ι	20
3	6	9	ϛ	ρ	λ	7	ϛ	ζ	10	13	16	19	1λ	1ρ	1λ	17	18	1ζ	20	23	26	29	2θ	2ρ	2λ	27	2ϛ	2ζ	2ι	30
4	8	ϛ	ρ	θ	ϛ	ε	12	16	17	1ε	1λ	1λ	18	20	24	28	2θ	2ρ	2θ	2ε	32	36	37	3ε	3λ	3ι	3β	3ε	3ι	40
5	τ	ρ	θ	ς	10	15	17	1ρ	1θ	1ς	20	25	27	2ρ	2θ	2ς	30	35	37	3ρ	3θ	3ς	40	45	47	4ρ	4θ	4ς	4ι	50
6	ϛ	λ	ϛ	10	16	1λ	1λ	18	20	26	2θ	2λ	2ϛ	30	36	3θ	3λ	3θ	40	46	4θ	4λ	4θ	50	56	5θ	5λ	5θ	60	
7	ε	7	ε	15	1θ	17	18	23	27	2κ	2θ	31	38	3ρ	3ι	3λ	46	4θ	4θ	4ζ	54	57	5λ	5ς	62	69	6ρ	6β	70	
8	ρ	ϛ	12	17	1λ	18	24	2θ	2θ	2ε	36	3ε	3λ	40	48	4ρ	4θ	52	57	5λ	5ε	64	6θ	6θ	6ε	76	7ε	7λ	80	
9	λ	ζ	16	1ρ	1θ	23	2θ	27	30	39	3λ	3ζ	46	4ρ	4θ	53	5θ	57	60	69	6λ	6ζ	76	7ρ	7θ	83	8θ	87	90	
τ	θ	10	17	1θ	20	27	2θ	30	37	3θ	40	47	4θ	50	57	5θ	60	67	6θ	70	77	7θ	80	87	8θ	90	97	9θ	τ0	
ϕ	ι	13	1ε	1ς	26	2κ	2ε	39	3θ	41	4θ	4β	54	5ρ	5ε	67	6λ	6λ	77	82	8θ	8θ	95	9ρ	9ζ	τ8	τ7	τ0		
ϛ	ϛ	16	1λ	20	2θ	2θ	36	3λ	40	4θ	4θ	56	5λ	60	6θ	6θ	76	7λ	80	8θ	8θ	96	9λ	τ0	τθ	τθ	τ6	τλ	θ0	
θ	ε	19	1λ	25	2λ	31	3ε	3ζ	47	4β	56	57	62	6ρ	6ε	77	7θ	87	8θ	93	9ρ	9λ	τθ	τς	τθ	τ7	θ4	θκ	θ0	
ε	ε	1λ	1ε	27	2θ	38	3λ	46	4θ	54	5λ	62	6ρ	70	7ε	7ε	8θ	8ε	97	9θ	τ8	τλ	τ6	τθ	θ4	θλ	θ2	θρ	ε0	
ρ	10	1ρ	20	2ρ	30	3ρ	40	4ρ	50	5ρ	60	6ρ	70	7ρ	80	8ρ	90	9ρ	τ0	τρ	τ0	τρ	θ0	θρ	θ0	θρ	ε0	ερ	ρ0	
ρ	12	1λ	24	2θ	36	3λ	48	4θ	57	5ε	6θ	6ε	7ε	80	8ρ	92	9λ	τ4	τθ	τ6	τλ	θθ	θθ	θ7	θε	εθ	εε	ερ	ρ0	
κ	14	17	28	2ς	3θ	3λ	4ρ	53	5θ	67	6θ	77	7ε	8ρ	92	97	τ6	τβ	τ7	τζ	θε	θ1	θλ	ες	ελ	ερ	εε	ρθ	κ0	
λ	16	1θ	2θ	30	3λ	46	4θ	5θ	60	6λ	76	7θ	8θ	90	9λ	τ6	τθ	τθ	θ0	θλ	θ6	θθ	εθ	ε0	ελ	ρ6	ρθ	κθ	λ0	
7	18	1ζ	2ρ	3ς	3θ	4θ	52	57	67	6λ	7λ	87	8ε	9ρ	τ4	τβ	τθ	θ1	θθ	θ9	θε	εθ	ε6	ες	ρε	κ3	κλ	λ7	70	
θ	17	20	2θ	37	40	4θ	57	60	6θ	77	80	8θ	97	τ0	τθ	τ7	θ0	θθ	θ7	ε0	εθ	ε7	ρ0	ρθ	κ7	λ0	λθ	77	θ0	
7	1λ	23	2θ	3ρ	46	4ζ	5λ	69	70	77	8θ	93	9θ	τρ	τ6	τζ	θλ	θ9	ε0	ε7	εθ	ρ3	ρθ	κρ	λ6	λζ	7λ	θ9	70	
ι	1ε	26	2ε	3θ	4θ	54	5ε	6λ	77	82	8θ	9ρ	τ8	τ0	τλ	θε	θ6	θε	εθ	εθ	ρ4	ρε	κλ	λ7	72	7θ	θρ	7θ	ι0	
β	1ρ	29	32	3ς	4λ	57	64	6ζ	7θ	8θ	96	9λ	τλ	τρ	θ8	θ1	θθ	εκ	ε7	ρ3	ρε	κ7	λθ	75	7ε	θ7	7ε	ι7	β0	
ϛ	1λ	2θ	36	40	4θ	5λ	6θ	76	80	8θ	9λ	τθ	τ6	θ0	θθ	θλ	εθ	ε6	ρ0	ρθ	κλ	λθ	76	θ0	θθ	7λ	ιθ	β6	ϛ0	
ς	1θ	2ρ	37	45	50	5ς	6θ	7ρ	87	95	τ0	τς	τθ	θρ	θ7	ες	ε0	ες	ρθ	κρ	λ7	7ς	θ0	θς	7θ	ιρ	β7	θς	ς0	
ε	1λ	2λ	3ε	47	56	62	6ε	7θ	8θ	9ρ	τθ	τθ	θ4	θ0	θε	ελ	ελ	ρε	κ7	λ7	θ6	72	7θ	θ7	λ6	λθ	θ8	ε4	ε0	
ζ	1θ	27	3λ	4ρ	5θ	69	76	83	90	9ζ	τθ	τ7	θλ	θρ	εθ	ερ	ρ6	κ3	λ0	λζ	7θ	θ7	7λ	ιρ	βθ	θ9	ς6	ε3	ζ0	
ε	1ε	2θ	3λ	4θ	5λ	6ρ	7ε	8θ	97	τ8	τ6	θ4	θ2	ε0	εε	εε	ρθ	κλ	λθ	7λ	θρ	7ε	ιθ	β7	θ8	ς6	ε4	ζ2	ε0	
ι	1ε	2ζ	3ε	4ς	5θ	6β	7λ	87	9θ	τ7	τλ	θκ	θρ	ερ	ερ	ρθ	κθ	λ7	77	θ9	7θ	ι7	β6	θς	ς4	ε3	ζ2	ε1	ι0	
10	20	30	40	50	60	70	80	90	τ0	τ0	θ0	θ0	ε0	ρ0	κ0	λ0	70	θ0	γ0	ι0	β0	ϛ0	ς0	ε0	ζ0	ε0	ι0	10	100	

Note that there are no standard trigesimal numerals; those used here are the set of "argam" numerals. There may be other proposals for base thirty.

This document may be freely shared under the terms of the Creative Commons Attribution License, Version 3.0 or greater. See <http://creativecommons.org/licenses/by/3.0/legalcode> regarding the Creative Commons Attribution License.

Heptatrigesimal (Base 37)

Numeral Set:

DECIMAL EQUIVALENT

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
+0	0	1	2	3	4	5	6	7	8	9	ϕ	ϕ	ϕ	ϕ	ε	ε	ρ	κ	λ
+19	7	ϑ	7	χ	ι	ϕ	ς	ε	ι	ε	ι	ϕ	ρ	ε	ε	κ	λ	λ	λ

HEPTATRIGESIMAL DIGITS

1	2	3	4	5	6	7	8	9	ϕ	ϕ	ϕ	ε	ε	ρ	κ	λ	λ	λ	10
2	4	6	8	ϕ	ϕ	ε	ρ	λ	ϑ	χ	ϕ	ε	ϕ	8	κ	λ	11	13	15
3	6	9	ϕ	ε	λ	7	ϕ	ι	ϕ	ε	λ	12	15	18	1ϕ	1ε	1κ	1ϑ	1λ
4	8	ϕ	ρ	ϑ	ϕ	ε	8	λ	13	17	1ϕ	1ϑ	1λ	1λ	1ϕ	1λ	22	26	2ϕ
5	ϕ	ε	ϑ	ς	ϕ	λ	13	18	1ϑ	1λ	1λ	1ε	1ε	21	26	2ϕ	27	28	2ϕ
6	ϕ	λ	ϕ	ϕ	λ	15	1ϕ	1κ	1λ	1λ	1λ	24	2ϕ	2ρ	2λ	2ε	2κ	33	39
7	ε	7	ε	λ	15	18	17	18	1ε	23	2ϕ	2κ	2ϕ	2ϕ	31	38	3ϕ	3λ	3λ
8	ρ	ϕ	8	13	1ϕ	17	1λ	1λ	26	2ε	2λ	2ϕ	31	39	3κ	3ς	3ε	44	4ϕ
9	λ	ι	λ	18	1κ	18	1λ	27	2ρ	2ς	2κ	36	3ϕ	3ϕ	3ε	45	4ε	4λ	48
ϕ	ϑ	ϕ	13	1ϑ	1λ	1ε	26	2ρ	28	2λ	39	37	3λ	42	48	4λ	48	55	5ϕ
ϕ	χ	ε	17	1λ	1λ	23	2ε	2ς	2λ	3ϕ	37	38	46	4κ	4ε	52	5ϑ	5ϕ	5λ
ϕ	ϕ	λ	1ϕ	1λ	1λ	2ϕ	2λ	2κ	39	37	3ε	48	4ϑ	48	57	57	5ϕ	66	6λ
ϑ	ε	12	1ϑ	1ε	24	2κ	2ϕ	36	37	38	48	47	4κ	5ϕ	5λ	5λ	68	6ς	71
ε	ε	15	17	1ε	2ϕ	2ϕ	31	3ϕ	3λ	46	4ϑ	4κ	5ϕ	5ς	62	6ρ	6ϕ	77	77
ε	ϕ	18	1λ	21	2ρ	2ϕ	39	3ϕ	42	4κ	48	5ϕ	5ς	63	6λ	6ε	7ϕ	78	84
ρ	8	1ϕ	1λ	26	2λ	31	3κ	3ε	4ϕ	4ε	57	5λ	62	6λ	6κ	7ϑ	7λ	88	8ϕ
κ	κ	1ε	1ϕ	2ϕ	2ε	38	3ς	45	4λ	52	57	5λ	6ρ	6ε	7ϑ	7ϕ	8ϕ	97	97
λ	λ	1κ	1λ	2ρ	2κ	3ϕ	3ε	4ε	48	5ϑ	5ϕ	6λ	6ϕ	7ϕ	7λ	8ϕ	99	9λ	9λ
7	11	1ϑ	22	27	33	3λ	44	4λ	55	5ϕ	66	6ς	77	78	88	8λ	99	9ε	ϕϕ
ϑ	13	1λ	26	28	39	3λ	4λ	48	5ϕ	5λ	6λ	71	77	84	8ϕ	97	9λ	ϕϕ	ϕϕ
7	15	18	2ϕ	2ϕ	3ϕ	3λ	4ϑ	54	5ς	69	6ϕ	7ε	7λ	87	93	9ϕ	ϕ8	ϕλ	ϕϑ
λ	17	1λ	2ε	2λ	37	46	4ε	5ϑ	5λ	6ϑ	75	7λ	8ϕ	8κ	97	ϕ4	ϕ8	ϕϕ	ϕϕ
λ	19	18	2λ	34	3λ	4ϑ	4λ	5λ	68	6ϕ	7κ	83	88	9ϕ	9λ	ϕ7	ϕϕ	ϕϕ	ϕϕ
ϕ	1ϕ	1λ	2λ	39	3ε	4ϑ	57	5ϕ	6λ	75	7λ	8ρ	93	9λ	ϕε	ϕ1	ϕς	ϕϕ	ϕϕ
ς	1ϑ	21	28	3ε	42	4λ	5ϕ	63	6ε	7ρ	84	8λ	9κ	ϕς	ϕϕ	ϕλ	ϕϕ	ϕϕ	ϕϕ
ε	1ϑ	24	2ϕ	37	48	4κ	5λ	6λ	71	7λ	8ρ	95	9ϕ	ϕϑ	ϕϕ	ϕλ	ϕϕ	ϕϕ	ϕϕ
λ	1κ	27	2κ	3ϕ	4ε	54	5ϕ	67	7ϕ	81	8ε	9λ	ϕ8	ϕλ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ
ε	17	2ϕ	31	3λ	4ϑ	5ϕ	62	6ϕ	77	88	93	9ϕ	ϕλ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ
ι	17	2ϑ	35	3κ	48	5λ	6ϕ	72	7ϕ	8λ	9ϕ	ϕ7	ϕλ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ
ϕ	1λ	2ρ	39	42	48	5ς	6λ	7ϕ	84	8κ	9λ	ϕϑ	ϕϑ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ
ϕ	1ς	27	3ϑ	47	51	58	68	7ϑ	8ε	98	ϕ2	ϕε	ϕλ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ
8	1λ	2λ	3κ	4ϕ	57	62	6κ	7λ	8ϕ	97	ϕε	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ
ε	1λ	2ς	37	4κ	5ϑ	69	75	81	8κ	9ϕ	ϕ8	ϕ8	ϕλ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ
κ	1ϕ	2ε	3ς	4λ	57	6ρ	7ϑ	8ϕ	97	ϕ4	ϕ1	ϕλ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ
λ	1ε	2ε	3λ	4λ	5ς	6λ	77	8ϕ	9κ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ
λ	1ε	2ϕ	3λ	4λ	5ς	6λ	77	87	9κ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ
λ	1ε	2ϕ	3λ	4λ	5ς	6λ	77	87	9κ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ
λ	1λ	2κ	3ε	48	5ϕ	6ϕ	7λ	8ε	9λ	ϕ8	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ	ϕϕ
10	20	30	40	50	60	70	80	90	ϕ0	ϕ0	ϕ0	ϕ0	ϕ0	ϕ0	ϕ0	ϕ0	ϕ0	ϕ0	ϕ0

Note that there are no standard heptatrigesimal numerals; those used here are the set of "argam" numerals. There may be other proposals for base thirty-seven.

This document may be freely shared under the terms of the Creative Commons Attribution License, Version 3.0 or greater. See <http://creativecommons.org/licenses/by/3.0/legalcode> regarding the Creative Commons Attribution License.

Octotrigesimal (Base 38)

Numerals Set:

DECIMAL EQUIVALENT

Table mapping decimal digits 0-18 to octotrigesimal numerals. Includes +0 and +19 rows.

OCTOTRIGESIMAL DIGITS

Main multiplication table for octotrigesimal digits, showing products of two digits from 1 to 10 in base 38.

Note that there are no standard octotrigesimal numerals; those used here are the set of "argam" numerals. There may be other proposals for base thirty-eight.

This document may be freely shared under the terms of the Creative Commons Attribution License, Version 3.0 or greater. See http://creativecommons.org/licenses/by/3.0/legalcode regarding the Creative Commons Attribution License.

Duoquagesimal (Base 42)

Numerals Set:

DECIMAL EQUIVALENT

Table mapping decimal equivalents (0-35) to duoquagesimal digits. Includes rows for +0, +7, +14, +21, +28, and +35.

DUOQUAGESIMAL DIGITS

Main multiplication table for duoquagesimal (Base 42) showing products of digits from 1 to 70.

Note that there are no standard duoquagesimal numerals; those used here are the set of "argam" numerals. There may be other proposals for base forty-two.

This document may be freely shared under the terms of the Creative Commons Attribution License, Version 3.0 or greater. See http://creativecommons.org/licenses/by/3.0/legalcode regarding the Creative Commons Attribution License.

Hexaquadragesimal (Base 46)

Numerals Set:

DECIMAL EQUIVALENT

Table showing the mapping of hexaquadragesimal numerals (0-45) to their decimal equivalents and vice versa. The numerals are: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, ɔ, ɿ, ʒ, ɔ̇, ɛ, Ɔ, Ɔ̇, ɸ, ɩ, ɹ, 7, ɔ̇, ʒ. The decimal equivalents are 0 through 45.

Main multiplication table for base 46, showing the product of two numbers from 1 to 100 in hexaquadragesimal numerals. The table is organized in a grid with 100 rows and 100 columns.

Note that there are no standard hexaquadragesimal numerals; those used here are the set of "argam" numerals. There may be other proposals for base forty-six.

This document may be freely shared under the terms of the Creative Commons Attribution License, Version 3.0 or greater. See http://creativecommons.org/licenses/by/3.0/legalcode regarding the Creative Commons Attribution License.

Heptaquadragesimal (Base 47)

Numerals Set:

DECIMAL EQUIVALENT

Table mapping decimal equivalents (0-7) to heptaquadragesimal numerals. Includes a small addition table (+0 to +40) showing numeral sums.

HEPTAQUADRAGESIMAL DIGITS

Main multiplication table for base 47, showing products of digits 0-46. Each row is labeled with its multiplier and each column with its multiplicand. Cells contain the resulting numeral in base 47.

Note that there are no standard heptaquadragesimal numerals; those used here are the set of "argam" numerals. There may be other proposals for base forty-seven.

This document may be freely shared under the terms of the Creative Commons Attribution License, Version 3.0 or greater. See http://creativecommons.org/licenses/by/3.0/legalcode regarding the Creative Commons Attribution License.

Enneaquagesimal (Base 49)

Numeral Set:

DECIMAL EQUIVALENT

	0	1	2	3	4	5	6
+0	0	1	2	3	4	5	6
+7	7	8	9	ϙ	ϕ	χ	ð
+14	ε	ϑ	ρ	τ	Ϡ	ϡ	ð
+21	7	γ	β	Ϡ	ϡ	β	λ
+28	ε	ν	ζ	ι	ε	ξ	κ
+35	α	β	η	θ	ι	κ	λ
+42	σ	ν	φ	ψ	χ	ψ	χ

ENNEAQUAGESIMAL DIGITS

1	2	3	4	5	6	7	8	9	ϙ	ϕ	χ	ð	ε	ϑ	ρ	τ	Ϡ	ϡ	β	λ	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Note that there are no standard enneaquagesimal numerals; those used here are the set of "argam" numerals. There may be other proposals for base forty-nine.

This document may be freely shared under the terms of the Creative Commons Attribution License, Version 3.0 or greater. See <http://creativecommons.org/licenses/by/3.0/legalcode> regarding the Creative Commons Attribution License.

Heptaquinquagesimal (Base 57)

Numerals Set:

DECIMAL EQUIVALENT

Table mapping numerals 0-18 to their decimal equivalents. Includes rows for +0, +19, and +38.

HEPTAQUINQUAGESIMAL DIGITS

Main multiplication table for base 57, showing products of digits 1-10 across 10 columns.

Note that there are no standard heptaquinquagesimal numerals; those used here are the set of "argam" numerals. There may be other proposals for base fifty-seven.

This document may be freely shared under the terms of the Creative Commons Attribution License, Version 3.0 or greater. See http://creativecommons.org/licenses/by/3.0/legalcode regarding the Creative Commons Attribution License.

Octoquinquagesimal (Base 58)

Numerals Set:

DECIMAL EQUIVALENT

Table with 29 columns (0-28) and 2 rows showing digit symbols and their decimal equivalents. Row 1: 0-28 with symbols 0-ε. Row 2: 1-28 with symbols 1-7.

OCTOQUINQUAGESIMAL DIGITS

Main multiplication table grid for base 58, containing 100 rows and 100 columns of digit symbols.

Note that there are no standard octoquinquagesimal numerals; those used here are the set of "argam" numerals. There may be other proposals for base fifty-eight.

This document may be freely shared under the terms of the Creative Commons Attribution License, Version 3.0 or greater. See http://creativecommons.org/licenses/by/3.0/legalcode regarding the Creative Commons Attribution License.

Sexagesimal (Base 60)

Table showing the conversion of decimal numerals (0-9) to sexagesimal numerals and their corresponding Babylonian cuneiform digits. Includes columns for 'DECIMAL EQUIVALENT' and 'BABYLONIAN CUNEIFORM DIGITS'.

Note that there are no standard sexagesimal numerals in today's civilization. The numerals here are the set of "argam" numerals. There are other proposals for base 60 numerals.

The ancient Mesopotamians, the Sumerians and Babylonians, developed a sexagesimal positional notation. Their cuneiform numerals appear at right. The Babylonians composed their numerals by using five decade-figures and nine unit figures.

Main multiplication table for base 60. Columns represent the multiplicand (1-60) and rows represent the multiplier (1-60). Each cell contains the product in decimal and its corresponding sexagesimal representation.

Argam numerals were developed to avoid projecting decimal values and methodologies on transdecimal bases. Further, the system was produced to avoid encumbrance by any alphabet, though initially, the Latin, Greek, and Devanagari alphabets inspired certain numerals.

If we define numerals which take their form from the prime factorization of the integer it symbolizes, we might eliminate much of the decimal association. The number 27, for instance, is not so much $[(2 \times 10) + 7]$, but more significantly 3^3 . Thus twenty-seven has little to do with “seven-ness” or “twice-ness” as the term “twenty seven” may impart. It has everything to do with “three-ness”. If we were to design a new digit for the quantity three-cubed, it should be tied to three-ness rather than being seven greater than twice ten. This is the impetus for the creation of the “argam” numerals.

The decimal interpretation of transdecimal numbers pervades our modern understanding of bases larger than ten, especially when they are significantly larger. Consider the means by which we note time, in hours and minutes. When we look at the clock and see a number like 6:40, the decimal presentation of the sexagesimal notation commands our interpretation of the figure. We see “six” and “forty.” What may not be as apparent is that the “forty” is not only (4×10) , but more significantly $\frac{2}{3}$. Thus a time like 6:40, if seen purely sexagesimally, might be better interpreted as $(6\frac{2}{3} \times \text{sixty})$, $(\frac{1}{9} \times \text{sixty-squared})$, $(2^4 \times 5^2)$, or 400. The decimal presentation of sexagesimal numbers tends to downplay the natural divisibility of sixty by 3 and 12 and somewhat 6. Of the six reciprocal divisor pairs of sixty, $\{1, 60\}$, $\{2, 30\}$, $\{3, 20\}$, $\{4, 15\}$, $\{5, 12\}$, $\{6, 10\}$, several are handicapped by the poorer divisibility of the presentation base, ten, with $\{1, 10\}$, $\{2, 5\}$. This hampering of several of the “axes” each sexagesimal divisor pair represents blunts the tool that sexagesimal notation presents us with. Argam numerals were intended to restore the “purity” of large number bases.

Like any tool or technology, argam numerals are far from perfect. Because these were developed by one person over two decades, and because they are based on retaining the nine “subdecimal” or Hindu-Arabic numerals, there are plenty of quirks. Because these found use by one person over the same time frame, the quirks were allowed to settle in and establish themselves. There may be better ways of defining single-figure numerals for integers in the range argam now covers (± 400 digits).

The argam began development in 1981–1983 to render hexadecimal numerals more satisfactorily than the alphanumeric method (Hindu-Arabic 0–9, extended with the first six Latin letters A–F), by a preteen boy. The first two numerals were the first letters of an invented, boyhood alphabet, the A and the B (τ). The A was replaced by a figure (ζ) in 1982 that communicated “two-ness” and “five-ness” simultaneously. It is a figure “2” rotated 180 degrees that resembles in a way a backward figure “5”. The next four numerals, $\{\delta, \varepsilon, \varrho, \rho\}$, represent decimal 12–15, respectively. The “ δ ” is the third letter in the Greek alphabet, written above the line, and stylizations of the Latin letters D, E, and F, taken from simple manipulations of the Hindu-Arabic numerals 6, 3, and 9. The names of the first six transdecimals were “desen”, “dalen”, “ceren”, “thisen”, “erin”, and “leqis”. The 1988 extension added five numerals $\{\rho, \text{r}, \lambda, \text{r}, \vartheta\}$ which are largely stylizations of lowercase Latin letters g–k, to symbolize 16–20. Girl’s names were assigned to each numeral; $\lambda = 18$ was called “lynn”. The numeral for twenty is a ten (τ) with its bowl folded up over the top. In 1991, the numerals were extended to thirty. The figure 7 is a seven with a wavy top with three cusps, the wavy top now a “radical” as in Chinese character construction, that communicates “three-ness”, cf. $\vartheta = 13$, $\delta = (3 \times 13)$. The λ is a digit-eleven (τ) connected at the upper-right corner with another τ , rotated 180 degrees. Digit-twenty-six is constructed in a similar way: $\vartheta = 13$, $\delta = (2 \times 13)$. Prime numbers tend to employ entirely new figures: digit-twenty-three (b) and twenty-nine (l) are examples. At first, the system was extended via diacritical marks, usually for doubling numbers like $\text{r} = (2 \times \delta)$, $\varepsilon = (2 \times \varepsilon)$. In 1992 the system was extended to sixty numerals, then further

extended over the nineties to 100, then 120 in 2004, and 400 in 2008. At digit-eighty-nine, the prime numbers take their form from the symbols of chemical elements; the atomic number equivalent to the prime: F (chromium/24) = 89, M (manganese/25) = 97, T (iron/26) = 101, B (cobalt/27) = 103, L (nickel/28) = 107, C (copper/29) = 109, Z (zinc/30) = 113, etc. Numerals in the high-range (the low hundreds) began to take form principally from the two factors which are closest to the square root of the digit in question. Thus, $\text{r} = (\tau \times \tau) = 110$, $\text{r} = (7 \times \text{r}) = 119$, $\text{r} = (3 \times \text{r}) = 159$, $\text{r} = (9 \times \text{r}) = 243$, but others involve multiple components: $\text{r} = (3 \times 7 \times \tau) = 231$. Some numerals were often used and had simpler compositions; $\text{r} = 60$, $\text{r} = 120$, $\text{r} = (\delta \times \varrho) = 180$, $\text{r} = (7 \times \delta) = 252$. Very large numbers tend to have more complex argam: $\text{r} = (2^2 \times 3 \times 5 \times \tau) = 660$, $\text{r} = (2^4 \times 3^2 \times 5) = (\text{r} \times \vartheta)$, 720, which is a doubling of $\text{r} = (2^3 \times 3^2 \times 5) = (\text{r} \times \vartheta)$, 360. Finally, there are single-figure numerals for the first twelve powers of the first 8 primes.

In 2006, the names of the argam (the “ismarragam”) were devised. The first numerals have single-syllable names as far as possible. The higher argam have compound names with no more than two syllables as far as possible. The ismarragam are likewise taken normally from the factors which are closest to the square root of the digit. A couple of the older names from the eighties have been retained with modifications ($\tau = 10 =$ “dess”, $\vartheta = 10 =$ “thise”).

The first sixty argam form the basis for my own sexagesimal use, in the accounting of my business and in the dimensioning of buildings. The names appear in the table below. 🏠

τ	10	dess	r	40	kinoct	r	70	sevess
τ	11	ell	r	41	lume	r	71	calse
δ	12	zen	r	42	exeff	r	72	octove
ϑ	13	thise	r	43	sill	r	73	scand
ε	14	zeff	r	44	cadell	r	74	dimack
ϱ	15	trick	r	45	kinove	r	75	kinchick
ρ	16	tess	r	46	diore	r	76	catax
r	17	zote	r	47	foss	r	77	sevell
λ	18	dine	r	48	exoct	r	78	exithe
r	19	ax	r	49	effent	r	79	tite
ϑ	20	score	r	50	kiness	r	80	octess
r	21	tress	r	51	trizote	r	81	novent
λ	22	dell	r	52	cadithe	r	82	dilume
r	23	flore	r	53	sull	r	83	van
r	24	cadex	r	54	exove	r	84	sezzen
r	25	quint	r	55	kinell	r	85	kinote
r	26	dithe	r	56	sevoct	r	86	dill
λ	27	trine	r	57	trax	r	87	trinue
ε	28	cadeff	r	58	dinue	r	88	octell
r	29	neo	r	59	clore	r	89	crome
r	30	kinex	r	60	shock	r	90	novess
r	31	sode	r	61	ark	r	91	sevithe
r	32	twive	r	62	disode	r	92	cadore
r	33	trell	r	63	senove	r	93	trisode
r	34	dote	r	64	octent	r	94	doss
r	35	kineff	r	65	kinithe	r	95	kinax
r	36	exent	r	66	exell	r	96	extess
r	37	mack	r	67	kale	r	97	mang
r	38	dax	r	68	cazote	r	98	seneff
r	39	trithe	r	69	triore	r	99	novell



How Do We Name Number Bases?

by Michael Thomas D^e Vlieger

THE LAMADRID BASE NAME SYSTEM

Bases 1–10		Bases 11–20					
1	unary	11	undecimal	21	unvigesimal	40	quadragesimal
2	binary	12	duodecimal	22	duovigesimal	50	quinquagesimal
3	ternary	13	tridecimal	23	trivigesimal	60	sexagesimal
4	quaternary	14	tetradecimal	24	tetravigesimal	70	septuagesimal
5	quinary	15	pentadecimal	25	pentavigesimal	80	octogesimal
6	senary	16	hexadecimal	90	nonogesimal
7	septenary	17	heptadecimal	30	trigesimal	100	centesimal
8	octal (octonary)	18	octodecimal	32	duotrigesimal	120	centovigesimal
9	nonary	19	enneadecimal	36	hexatrigesimal	144	centotetraquadragesimal
10	decimal	20	vigesimal	360	trecentosexagesimal

You've probably learned the names of some bases in school! We know **decimal** is base 10, **hexadecimal** is base 16, **binary** is base 2, and **octal** is base 8. Some other bases have longer and fancier names, mostly from Latin. Base 20 used by the Maya, is called **vigesimal**, while base 60 used by the ancient Mesopotamians, is called **sexagesimal**.

Above is a chart of some names for bases. The names that are in bold are words you would be able to find in a good dictionary. Because there is no standard way of naming bases, this website has invented the others using a new system. This new system tries to follow the way the other names were made to furnish similar names for the other bases.

Unlike names for chemical elements or for numbers themselves, bases don't have a common system of names. What would you call base 14? Where would we get the parts necessary to put together such a name? Of course we can always call it "base 14".

If we want formal-sounding names like "decimal" for base 10, or "hexadecimal" for base 16, we might try to use the sources of the parts of those names. These sources are Latin and Greek.

Now we don't live in ancient Rome nor Greece, so we might not have to do everything those languages do to express a number. We can mix Latin and Greek, too. The English language has been using Latin and Greek words for new inventions and scientific terms for more than a couple centuries. Because of this, many of the word parts from these languages are fairly easy to understand in English. The Greek word-part "tele" and the Latin word part "vision", or the Greek word part "phone" are easy to understand. "Tele" means "far", so any word that has "tele-" has something to do with distance. Television and telephones are devices that communicate pictures and sounds from afar.

We use the Greek word part "hexa" to impart the idea of sixfoldness in English. We know that a hexagon is a six-sided shape. The Latin word "decimal" communicates something to do with ten. When we put these parts together we get "hexadecimal", meaning base 16. So we can use Greek words for the units and Latin for the tens place. We write these "backward", meaning unit first, then decade, because that's how the words like "hexadecimal" are arranged. Lat-

UNIT PARTICLES

- 1 un-
- 2 duo-
- 3 tri-
- 4 tetra-
- 5 penta-
- 6 hexa-
- 7 hepta-
- 8 octo-
- 9 ennea-

DECADE PARTICLES

- 10 dec-
- 20 viges-
- 30 triges-
- 40 quadrages-
- 50 quinquages-
- 60 sexages-
- 70 septuages-
- 80 octoges-
- 90 nonages-

HUNDRED PARTICLES

- 100 centes-
- 200 ducentes-
- 300 trecentes-
- 400 quadringentes-
- 500 quingentes-
- 600 sescentes-
- 700 septingentes-
- 800 octingentes-
- 900 nongentes-

in places the units ahead of the decades.

We don't have to have perfectly-good Latin names (or Greek ones) for number bases, because we aren't trying to make Latin words. We're making new English words that help us talk about number bases. So we don't have to do everything these older languages do to make actual Latin or Greek number names. Some of the other things Latin does with number names would be confusing in English, so we don't do them!

The column of "particles" or parts of words we can use to build a base name appears in the center of this page. Base 10 and below have a different set of names that matches what's in place today: these end in -ary except for "octal". Remember, the goal is not to change the commonly used names. However, above base ten we use a system that puts hundreds first, then units, then decades, followed by "-imal". So base 144 would be called "centotetraquadragesimal". Putting units in front of decades seems awkward, but it preserves the common name "hexadecimal".

Would this system work in languages other than English? It may. Breaking the rules of Latin and Greek may harm the sensibility of this system in other languages. Speakers of other languages might wonder why we don't do everything older languages do, that might seem strange and confusing to them. It would be up to speakers in those other languages to produce their own names of bases; we won't try to control them. In some languages, like Spanish, Italian, and French, speakers might possibly simply use actual Latin base names. This is an English-language website; we'll focus on English-language solutions and let others choose as they wish.

So this is the system for number base names used on this website. An intelligent young friend named Fernando Martínez Lamadrid of México suggested the system for names up to base-99; I've continued the system through the thousands. For this reason, this system is called the Lamadrid system of base names. It looks like a good system, so we're sticking with it! 🏠