

krillion

Alex Racz

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1 Introduction

This system of letter values allows the spelling of all integers and many rational numbers in $(-10^{27}, 10^{27})$ with nine spelling changes and a few specific rules, all described in the Axioms section. The need for some specific axioms is shown in the Theorems section. To give some examples:

negativefour=-4

zero=0

(one)/(onemillion)= 10^{-6}

twentypercent=0.2

one=1

two=2

three+(four+teen)percent=3.14

five=5

ten=10

elev+en=11

tw+elve=12

six+teen=16

therty=30

seventy=70

twohundred+twenty+two=222

fourtythousand=40,000

fivehundredthousand=500,000

eightteenmillion=18,000,000

onebillion= 10^9

onekrillion= 10^{12}

onequadrillion= 10^{15}

onejuintillion= 10^{18}

onesextillion= 10^{21}

oneseptillion= 10^{24}

(ninehundred+ninety+nine)septillion+(ninehundred+ninety+nine)sextillion+
(ninehundred+ninety+nine)juintillion+(ninehundred+ninety+nine)quadrillion+
(ninehundred+ninety+nine)krillion+(ninehundred+ninety+nine)billion+
(ninehundred+ninety+nine)million+(ninehundred+ninety+nine)thousand+
ninehundred+ninety+nine= $10^{27}-1$

2 Letters

$$a = -\frac{1}{84} * 1890^{\frac{1}{5}} * (10^9 * \frac{7}{12}\sqrt{6})^{\frac{2}{5}}$$

$$b = 10^{-11} * \frac{2}{3}$$

$$c = 10^3 * \frac{35}{18}\sqrt{6} * 1890^{\frac{1}{5}} * (10^{-9} * \frac{2}{7}\sqrt{6})^{\frac{3}{5}}$$

$$d = -50 * 1890^{-\frac{3}{5}} * (10^9 * \frac{7}{12}\sqrt{6})^{\frac{4}{5}}$$

$$e = 1$$

$$f = 10^{10} * \frac{1}{324}\sqrt{6}$$

$$g = \frac{4}{45} * 1890^{-\frac{1}{5}} * (10^9 * \frac{7}{12}\sqrt{6})^{\frac{3}{5}}$$

$$h = 1890^{\frac{1}{5}} * (10^{-9} * \frac{2}{7}\sqrt{6})^{\frac{3}{5}}$$

$$i = 9$$

$$j = 10^{-3} * \frac{1}{3402} * 1890^{-\frac{1}{5}} * (10^9 * \frac{7}{12}\sqrt{6})^{\frac{8}{5}}$$

$$k = 10^{-7} * \frac{2}{9} * 1890^{\frac{1}{5}} * (10^{-9} * \frac{2}{7}\sqrt{6})^{\frac{3}{5}}$$

$$l = 10^{10} * \frac{1}{18}\sqrt{6}$$

$$m = 10^{-14} * \frac{2}{3}$$

$$n = 1$$

$$o = 1$$

$$p = 10^{-6} * \frac{2}{7}\sqrt{6}$$

$$q = 10^{-6} * \frac{4}{27} * 1890^{\frac{2}{5}} * (10^{-9} * \frac{2}{7}\sqrt{6})^{\frac{1}{5}}$$

$$r = \frac{3}{10} * 1890^{-\frac{1}{5}} * (10^9 * \frac{7}{12}\sqrt{6})^{\frac{3}{5}}$$

$$s = 10^9 * \frac{7}{18}\sqrt{6}$$

$$t = 10$$

$$u = 252 * 1890^{\frac{1}{5}} * (10^{-9} * \frac{2}{7}\sqrt{6})^{\frac{8}{5}}$$

$$v = 10^{-9} * 3\sqrt{6}$$

$$w = \frac{1}{5}$$

$$x = 10^{-9} * \frac{2}{7}\sqrt{6}$$

$$y = 1$$

$$z = 0$$

3 Axioms

1. -ty uses multiplication and -teen uses addition, with ty=10=teen.
2. 11 and 12 use addition as elev+en and tw+elve.
3. 13 is misspelled as ther+teen and 30 is misspelled as therty.
4. 15 is misspelled as fiv+teen and 50 is misspelled as fivty.
5. 18 is misspelled as eight+teen and 80 is misspelled as eightty.
6. 40 is misspelled as forty.
7. 10^{12} is misspelled as onekrillion.
8. 10^{18} is misspelled as onejuintillion.
9. Addition is used to spell two- and three-digit numbers not ending in 0 or 00 respectively, as well as where a comma would be.
10. Multiplication is used for negatives and percents.

4 Lemmas

1. Numbers 0-11 can be properly spelled with no addition.

5 Theorems

1. o, n, and e must all be 1.
ten=10, and by A1, teen=10, so e=1. two=2, and by A1, twen=2, so o=en=n. 1=one=on, and o=n, so o=1=n.
2. Numbers 0-12 cannot be properly spelled with no addition.
Assume the contradiction. We'll use L1. eleven=11 and twelve=12, so tw/en=12/11. two=2 and one=1, so tw/ne=tw/en=2/1. This is a contradiction.

3. If $\text{nine}=9$, $\text{thir}+\text{teen}\neq 13$ and $\text{thirty}\neq 30$.

Assume $\text{nine}=9$, and assume $\text{thir}+\text{teen}=13$ or $\text{thirty}=30$. By A1, $\text{ty}=10=\text{teen}$, so $\text{thir}=3$. $\text{nine}=9$, so by T1, $\text{i}=9$. So, $\text{thr}=1/3$. By T1, $3=\text{three}=\text{thr}$. This is a contradiction.