The Dozenal Society of America
is a voluntary nonprofit educational corporation, organized for
the conduct of research and education of the public in the use
of base twelve in calculations, mathematics, weights and
measures, and other branches of pure and applied science.
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Student membership is $3 (USD) per year.
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THE Duodecimal Bulletin

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Abby awakens from a very bad, thoroughly decimal dream…
I’ll be back in a fifth of a tenth of a day, Abby!
Just as tasty as a dozen!
Our new, handy five-pack!
…all ten parts of the year…
…just take three tenths of three tenths of a litre of water…
Abby awakens from a very bad, thoroughly decimal dream...
Valentine’s Day is around the corner, a day we Americans reserve to honor the ones we love. My wife and children know my affections are reserved especially for them; we will exchange gifts, perhaps a dozen roses or chocolates.

Our civilization, at least the commercial side of it, is in love with the dozen. You’ll say, skeptically, “then why are we saddled with decimal, with a French metric system?” The answer to that question appears to be simple and complex at the same time—and best reserved for academics and historians to settle for us. Let’s look past the decimal number base at the way we actually group things. Right now, I have a catalog we received in the mail, fraught with colorful pictures and exclamatory proclamations about the quality and popularity of the products. My eyes turn to the quantities—dozens, multiples and powers of the dozen, explicitly written. I can understand stuffing twelve plush toys in a box, 3 rows of 4, that makes sense. What about mardi gras beads? Can’t we just stuff ten or twenty or a hundred into a box? Why dozens? I don’t think I can really answer the question just using logic. I think everyone is simply aware that twelve items can be divided in so many ways, that they can be packed in a variety of ways. It’s such a useful grouping that, civilizationaly, we have come to see the dozen and its multiples and powers as “round numbers” despite our decimal base. We’ve come to love the dozen.

This issue offers the lover of the dozen works of love and intellect celebrating or studying this magnificent number. We have Mr. Dan Simon’s report on Simon Stevin, a mathematician young Mr. Simon is so passionate about, he dressed up as Mr. Stevin for Halloween. Prof. Jay Schiffman offers an examination of home primes in dozenal, along with the data he’s generated. We invite you to join us in our passion! Send in your thoughts, better yet, come see us in New York this summer! Let’s celebrate our favorite number!
In attendance: Board Chair Jay Schiffman, Board Members: Secretary Alice Berridge, Gene Zirkel, and President and Editor Michael D\textsuperscript{e} Vlieger; Member Dan Simon, Ms. Jen Seron, Graham Steele of Framingham, MA.

**Board Meeting Minutes**

The meeting was called to order at 2:00 pm by Board Chair Jay Schiffman in Room D-3097 at the College. (Thanks to Gene for supplying refreshments, and to Ellen Tufano who brought a delicious array of cookies.)

Minutes of the 23; June 11E5; Board Meeting were accepted as printed in *The Bulletin*. Members introduced themselves.

Treasurer Ellen Tufano’s half-year financial report was accepted and approved by Members. Her report shows that there is a slight increase in net worth, that the largest expenditure was for meeting expenses and that the cost for the printing of *The Bulletin* has markedly decreased, partly due to electronic production and publishing.

Discussion ensued about the filing of IRS forms associated with the Society’s 501(c)(3) tax-exempt nonprofit status, which Mike has been investigating. This issue involves the New York State Certificate of Incorporation. Mike provided us with the latest copy of the DSA Constitution and the Certificate of Incorporation. He is close to settling the issue. Jen Seron suggested that her husband might be able to help with finally rectifying our status.

Members expressed appreciation for Ellen’s work (she served as Treasurer for 5 years and on the Board of Directors for 4 years) and she was presented with a DSA Honorary Membership.

Readers are reminded to send dues (student $3; regular Member $16; Supporting Member $30) to Jay’s address which is listed in our *Bulletin*.

The Nominating Committee consisting of Alice Berridge, Gene Zirkel and Pat Zirkel proposed the following slate of Officers: Board Chair Jay Schiffman; President Michael D\textsuperscript{e} Vlieger, Vice President John Earnest, Secretary Alice Berridge and Treasurer Jay Schiffman. As there were no other nominations, this slate was approved.

Board Chair Schiffman presented the Ralph Beard Memorial Award for a second time to the same person (this is only the second time that this has occurred in our history)—Mike D\textsuperscript{e} Vlieger. (See page 6 for the text of the award).

The next meeting is scheduled for 2 pm 21; June 11E7; (25 June 2011.) at Nassau Community College. This meeting was adjourned at 3 pm. It is hoped that next time we will be able to link with Dr. Impagliazzo, Qatar via Skype.

**Membership Meeting Minutes**

The meeting was called to order by President D\textsuperscript{e} Vlieger at 3:05 pm. Minutes of the last meeting were accepted as printed in *The Bulletin*. Gene noted that long time doz- enal advocate & Board Member Rob Roy McPherson of Gainesville, FL recently passed away. (Notice appears in Vol. 4E; № 1 page 4.)

Mike is still working on updating the website, but has managed to eliminate error messages associated with PHP files. Late in 2009 the site had been hacked. Passwords were changed and no further problems have been reported since they were rectified in December 2009. Graham indicated interest in working with the website. It was noted that the membership form needs to be updated. In general, the web pages are generated through PHP, and have not been updated since 2005. Jen agreed to see if she can help update the pages. Jen reiterated her hope that dozens materials suitable for classroom teaching might be developed and posted on the site.

Mike discussed issues for upcoming issues of the *Duodecimal Bulletin*. The next dozen issues would feature a temporary department looking into dozenal systems of measurement. Takashi Suga has written an interesting two dozen eleven page Universal Unit System, and has discussed a more concise article for the Bulletin. A prominent system is Tom Pendlebury’s *TGM* (time-gravity-mass) system. Mike thinks Member Don Goodman III might lend a hand in examining that system. Mike is also interested in a special issue on music—supplemented, perhaps in part by reprinting prior articles. Jen drew our attention to an interesting song: "Little Dec-Head" written by Dr. Doug Shaw, UNI. It’s an amusing spoof on Little Twelve Toes. Dan Simon has written a research report on Simon Stevin and Chinese twelve-tone music and we all encouraged him to submit the article to Mike. (Mr. Simon’s Stevin report appears on page 8 of this issue.) Members agreed that the latest *Bulletin* (Vol. 4E; №. 2) is enjoyable and informative.

Mike was reappointed Editor of our *Bulletin*, and Gene was appointed Parliamentarian to the Chair by Jay and also to the President by Mike. Dan noted that the according to the Constitution, another member was needed in the Class of 11E5; (2010.) due to the passing of Mr. M’Pherson; Graham Steele agreed to take his place. The Class of 11E5; (2013.) was elected: Dr. John Impagliazzo, Gene Zirkel, John Earnest and Graham Steele. The Nominating Committee of Gene Zirkel, Pat Zirkel and Alice Berridge was re-elected. The meeting adjourned at 4:05 pm.

Board Chair Jay Schiffman presented “Dozenal Home Primes,” a demonstration of dozenal home primes, to Members. There was avid participation in the discussion of composite numbers whereby successive concatenations are carried out until a prime is reached. Jay showed that the number of steps needed to reach a prime is different for different bases. His first example, decimal 10., needed four steps to reach the home prime reached. Jay showed that the number of steps needed to reach a prime is different for different bases. His first example, decimal 10., needed four steps to reach the prime. Mike is also interested in a special article on the topic of Home Primes which appears on page 11; of this issue.)

~ Submitted by Alice Berridge, Secretary

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The Ralph Beard Memorial Award
of the
Dozenal Society of America
is hereby presented to
Michael D\textsuperscript{e} Vlieger
President & Editor
for his inspiring leadership, for his devotion to the duties of the offices he holds, for his efforts and generosity on behalf of our Society, & in particular for his accomplishments as Editor which include full color Bulletins, creating our eBulletin & especially for the unmeasurable time & effort he put into producing the outstanding ‘symbology’ themed issue.

The members of our Society and the Board of Directors are pleased to present him with this token of our gratitude and our appreciation.

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S; six
Presenting a simple listing of the positive and negative powers of two and three in dozenal, between -30; (-36) and 30; (36). These facts were calculated using Wolfram Mathematica 7.0. Challenge: Can you write an algorithm that would generate similar output?

→ See the bottom of page 23, for an answer!

### POWERs of TWO

<table>
<thead>
<tr>
<th>Positive n</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$ \frac{1}{1}$</td>
</tr>
<tr>
<td>2</td>
<td>$ \frac{1}{2}$</td>
</tr>
<tr>
<td>3</td>
<td>$ \frac{1}{3}$</td>
</tr>
<tr>
<td>4</td>
<td>$ \frac{1}{4}$</td>
</tr>
<tr>
<td>5</td>
<td>$ \frac{1}{5}$</td>
</tr>
<tr>
<td>6</td>
<td>$ \frac{1}{6}$</td>
</tr>
<tr>
<td>7</td>
<td>$ \frac{1}{7}$</td>
</tr>
<tr>
<td>8</td>
<td>$ \frac{1}{8}$</td>
</tr>
<tr>
<td>9</td>
<td>$ \frac{1}{9}$</td>
</tr>
<tr>
<td>10</td>
<td>$ \frac{1}{10}$</td>
</tr>
</tbody>
</table>

### POWERs of THREE

<table>
<thead>
<tr>
<th>Positive n</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$ \frac{1}{1}$</td>
</tr>
<tr>
<td>2</td>
<td>$ \frac{1}{2}$</td>
</tr>
<tr>
<td>3</td>
<td>$ \frac{1}{3}$</td>
</tr>
<tr>
<td>4</td>
<td>$ \frac{1}{4}$</td>
</tr>
<tr>
<td>5</td>
<td>$ \frac{1}{5}$</td>
</tr>
<tr>
<td>6</td>
<td>$ \frac{1}{6}$</td>
</tr>
<tr>
<td>7</td>
<td>$ \frac{1}{7}$</td>
</tr>
<tr>
<td>8</td>
<td>$ \frac{1}{8}$</td>
</tr>
<tr>
<td>9</td>
<td>$ \frac{1}{9}$</td>
</tr>
<tr>
<td>10</td>
<td>$ \frac{1}{10}$</td>
</tr>
</tbody>
</table>

Simon Stevin was born in Flanders and lived from 1548 to 1620. Stevin was special in that he wanted scientific and mathematical discoveries to be shared with all people—not just the scholars. Many of the books and papers he published were to teach everyone even though he was employed by Prince Maurice of Orange.

### Major Accomplishments

Stevin is best known for popularizing use of the decimal system—for he published a paper which in less than forty pages explained why everyday people should use decimals vs. fractions. Scholars had been using decimals for hundreds of years but the normal people had no idea.

Stevin “discovered” gravity. Years before Galileo or Isaac Newton’s famous experiments with gravity, Stevin published an experiment in which he determined that a heavy object fell to earth at the same rate as a light object.

Stevin wrote in Dutch because he wanted the normal people to understand what scholars were doing and he thought Dutch was much more useful than Latin or Greek. He wanted to teach the everyday people as well as the princes.

Stevin was the first European to use a base twelve system to mathematically create a new type of music which was “Equally Tempered”.

### EQUAL TEMPERAMENT

What was this new approach to music? Wu Zaiyu, a Chinese scholar-prince actually discovered it before Simon Stevin, who did a great job of spreading the idea in Europe. Both Wu Zaiyu and Stevin used mathematics to create equal distances in an octave. This equal distance between notes is called “Equal Temperament”. In the beginning there was a big fight over whether the old way “Natural Tuning” would win or whether the new “Equal Temperament” way would win.

J. S. Bach wrote an entire piece of music called “The Well-Tempered Clavier” in order to show off how useful this new base-twelve system of tuning would be for musicians. The base-twelve system of Equally Tempered notes won and it has dominated western music even until today.

~ Editor’s Note: Mr. Simon was 8 years old when he dictated this report to his mother Jen Seron, based on readings they found together. Dan presented an oral report at the 2008 NYCHEA History Fair 17 November 2008 in NYC at the Jefferson Market Branch of the New York Public Library in Manhattan. He read it aloud to about dozen people in attendance. See page nine for some of Mr. Simon’s resources.
How Do You Pronounce Dozenals?

by Gene Zirkel

Introduction

This article was inspired by a question from a high school senior, Steven Keyes: “How would one pronounce the names of dozenal numbers, such as 11; (a baker’s dozen) or X5; (the cube of five)?”

We begin by reprinting the unsigned “Mo for Megro” item in our Bulletin, WN 0, Vol. 1; № 1; p. 10.

The item followed a report on committees including the Committee on Weights and Measures of which Editor Ralph Beard was the chair. It does not seem to be a part of that report, for it has a separate entry in the table of contents. It was most likely written by Editor Beard. Shortly after Andrews’ 1934 article appeared in the Atlantic Monthly, our founders became to write to one another in what Beard called “a round robin” of letters. This first issue of our Bulletin appeared dek years later. From the report it is clear that they had been discussing nomenclature among themselves during that time.

The following is the original article reprinted in its entirety:

Mo For Megro

For several years we have used the term “mego” to represent 1,000; this being a shortened name for meg-gross, or great gross. As it becomes clear that the names for the first three powers of the “do” will also be used as prefixes for similar relationships among the weights and measures, (as in doyard, and groyard), it seems advisable that the two-syllabled “megro” be further shortened to “mo”.

The ascending progression will then be: do, gro, and mo. While there has been no special practice as to the descending succession, there has been some use of “doth” to represent one-twelfth, and “groth” as one part of a gross. In place of this awkward construction, the use of the prefix “e” has been accepted as meaning “of, or out of”. Thus, one “edo” means one out of a dozen, or one-twelfth. And in place of “percent” we have “egro”.

The ascending and descending progressions are:

Table 1

<table>
<thead>
<tr>
<th></th>
<th>1; One</th>
<th>10; Do</th>
<th>100; Gro</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0;1</td>
<td>Edo</td>
<td>Egro</td>
</tr>
<tr>
<td>10</td>
<td>0;01</td>
<td>Edo-mo</td>
<td>Egro-mo</td>
</tr>
<tr>
<td>100</td>
<td>0;001</td>
<td>Edo-mo</td>
<td>Egro-mo</td>
</tr>
<tr>
<td>1,000</td>
<td>0;000,1</td>
<td>Edo-mo</td>
<td>Egro-mo</td>
</tr>
<tr>
<td>10,000</td>
<td>0;000,01</td>
<td>Ebo-mo</td>
<td>Ebi-mo</td>
</tr>
<tr>
<td>100,000</td>
<td>0;000,001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,000,000</td>
<td>0;000,001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,000,000,000</td>
<td>and so on.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

End of Original Article

Pronouncing Whole Numbers using the above system:

Just as a base dek number such as 345,670,000 is pronounced “3 hundred forty 5 million, 6 hundred seventy thousand”, so too the dozenal number £8,65X,300 is pronounced “el do 8 bi-mo, 6 gro 5 do x mo, 3 gro”.

Volume 4£; Number 2; Whole Number 9£;
Some examples:

<table>
<thead>
<tr>
<th>Number</th>
<th>Base Dek Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>40,101,000,000</td>
<td>4 do tri-mo, 1 gro 1 bi-mo</td>
</tr>
<tr>
<td>3,030,504</td>
<td>3 do X bi-mo, 3 do mo, 5 gro 4</td>
</tr>
<tr>
<td>5,011,000</td>
<td>5 bi-mo, do mo 1</td>
</tr>
<tr>
<td>346,722</td>
<td>3 gro 4 do 6 mo, 7 gro 2 do 2</td>
</tr>
</tbody>
</table>

Of course just as in base dek, 456,000,000 quickly changes from ‘4 hundred fifty 6 thousand’, to simply ‘456 thousand’, to simply ‘456 thousand’, so too in base dek, 456,000,000 quickly becomes:

<table>
<thead>
<tr>
<th>Number</th>
<th>Base Dek Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 tri-mo</td>
<td>101 bi-mo</td>
</tr>
<tr>
<td>3X bi-mo</td>
<td>50 gro, 504</td>
</tr>
<tr>
<td>5 bi-mo, 11 mo</td>
<td>346 mo, 722</td>
</tr>
</tbody>
</table>

Fractionals

The table in the original article, which we’ve labeled “Table 1”, given to us by our founders, is very easy to use when dealing with fractionals. Just as in base dek, one merely refers to the position of the rightmost digit when reading fractionals, thus:

<table>
<thead>
<tr>
<th>Fractional</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.34</td>
<td>34 hundredths</td>
</tr>
<tr>
<td>0.056</td>
<td>56 thousandths</td>
</tr>
<tr>
<td>0.70008</td>
<td>70,008 hundred thousandths</td>
</tr>
</tbody>
</table>

So too in dozenals we refer to the position of the last digit, thus:

<table>
<thead>
<tr>
<th>Fractional</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.34</td>
<td>3 do 4 egro (or 34; egro.)</td>
</tr>
<tr>
<td>0.056</td>
<td>56; emo</td>
</tr>
<tr>
<td>0.70008</td>
<td>70,008; egro-mo</td>
</tr>
</tbody>
</table>

An Alternate Proposal for Whole Numbers

Table 1 partially answers the question Steven asked. However in a world of trillion dollar and larger budgets, what about extremely large numbers, words much larger than a tri-mo such as are used in astronomy?

Americans call a ‘1’ followed by 6 zeros a million, by 9 zeros a billion, and by a dozen zeros a trillion. The initial m, b, t of these words is copied in the second column of Table 1 in mo, bi-mo and tri-mo. However, this association of initial letters limps.

I suggest the following as a simpler and regular method of naming duodecimal integers similar in simplicity to that of duodecimal fractionals.

<table>
<thead>
<tr>
<th>Number</th>
<th>Base Dek Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 do</td>
<td>10^0 do mo mo mo</td>
</tr>
<tr>
<td>100 gro</td>
<td>10^1 gro mo mo mo</td>
</tr>
<tr>
<td>1000 mo</td>
<td>10^2 mo mo mo mo</td>
</tr>
<tr>
<td>10,000 do mo</td>
<td>10^3 do mo mo mo mo</td>
</tr>
<tr>
<td>100,000 gro mo</td>
<td>10^4 gro mo mo mo mo</td>
</tr>
<tr>
<td>1,000,000 mo mo</td>
<td>10^5 mo mo mo mo mo</td>
</tr>
<tr>
<td>10,000,000 do mo mo</td>
<td>10^6 mo mo mo mo mo mo</td>
</tr>
<tr>
<td>100,000,000 gro mo mo</td>
<td>10^7 mo mo mo mo mo mo mo</td>
</tr>
<tr>
<td>1,000,000,000 mo mo mo</td>
<td>10^8 mo mo mo mo mo mo mo mo</td>
</tr>
</tbody>
</table>

Table 2

<table>
<thead>
<tr>
<th>Number</th>
<th>Base Dek Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 do</td>
<td>10^0 do mo mo mo</td>
</tr>
<tr>
<td>100 gro</td>
<td>10^1 gro mo mo mo</td>
</tr>
<tr>
<td>1000 mo</td>
<td>10^2 mo mo mo mo</td>
</tr>
<tr>
<td>10,000 do mo</td>
<td>10^3 do mo mo mo mo</td>
</tr>
<tr>
<td>100,000 gro mo</td>
<td>10^4 gro mo mo mo mo</td>
</tr>
<tr>
<td>1,000,000 mo mo</td>
<td>10^5 mo mo mo mo mo</td>
</tr>
<tr>
<td>10,000,000 do mo mo</td>
<td>10^6 mo mo mo mo mo mo</td>
</tr>
<tr>
<td>100,000,000 gro mo mo</td>
<td>10^7 mo mo mo mo mo mo mo</td>
</tr>
<tr>
<td>1,000,000,000 mo mo mo</td>
<td>10^8 mo mo mo mo mo mo mo mo</td>
</tr>
</tbody>
</table>

Of course, this notation can easily be simplified to something such as using a subscript to indicate the number of ‘mo’s in the way that we abbreviate “cubic inches” as “in^3”.

Conversely, How to Expand Verbal Expressions

Table 3

<table>
<thead>
<tr>
<th>Do</th>
<th>Base Dek Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 do</td>
<td>10^0 do mo mo</td>
</tr>
<tr>
<td>100 gro</td>
<td>10^1 gro mo mo</td>
</tr>
<tr>
<td>1000 mo</td>
<td>10^2 mo mo mo</td>
</tr>
<tr>
<td>10,000 do mo</td>
<td>10^3 do mo mo mo</td>
</tr>
<tr>
<td>100,000 gro mo</td>
<td>10^4 gro mo mo mo</td>
</tr>
<tr>
<td>1,000,000 mo mo</td>
<td>10^5 mo mo mo mo</td>
</tr>
<tr>
<td>10,000,000 do mo mo</td>
<td>10^6 mo mo mo mo mo</td>
</tr>
<tr>
<td>100,000,000 gro mo mo</td>
<td>10^7 mo mo mo mo mo mo</td>
</tr>
<tr>
<td>1,000,000,000 mo mo mo</td>
<td>10^8 mo mo mo mo mo mo mo</td>
</tr>
</tbody>
</table>

How to Pronounce Large Numbers

1. In the examples below, separate the number into what is left of the leftmost comma and what is to the right.
2. Determine the number of triples (T) to the right.
3. Utter the left side concatenated with “mo sub T”.
4. Repeat this process with the right side until the right side is empty.

Thus to pronounce a given string of digits such as 12,345,678:

Separate “12” from “345,678” which has 2 triples. This yields “12 mo,” with 345,678 remaining.

Repeat with “345,678” separating “345” and “678” obtaining “345 mo” with 678 remaining.

Repeat with “678” separating “678” from nothing obtaining “678” with nothing remaining.

Concatenate your results saying “12 mo, 345 mo, 678” or “do mo, 345 mo, 678”.

Conversely, How to Expand Verbal Expressions

Example: Expand “3-gro 4-mo, 5-do 6-mo”.

First we recognize that the first 3 digits preceding the largest subscript are “304” and the remaining digits must come in groups of three.

Next we notice that the largest subscript (3) indicates that the number has more than 3 × 3 and at most 3 × (3 + 1) digits. That is dek, el, or do digits. We have already accounted for two digits that leaves 2, 3, or 4 more and only 3 has exactly 3 groups of digits. Thus so far we have “304, 12 mo”.

We separate “12” from “mo” leaving “1” in mo, bi-mo and tri-mo. However, this association of initial letters limps.

I suggest the following as a simpler and regular method of naming duodecimal integers similar in simplicity to that of duodecimal fractionals.

<table>
<thead>
<tr>
<th>Number</th>
<th>Base Dek Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 do</td>
<td>10^0 do mo mo</td>
</tr>
<tr>
<td>100 gro</td>
<td>10^1 gro mo mo</td>
</tr>
<tr>
<td>1000 mo</td>
<td>10^2 mo mo mo</td>
</tr>
<tr>
<td>10,000 do mo</td>
<td>10^3 do mo mo mo</td>
</tr>
<tr>
<td>100,000 gro mo</td>
<td>10^4 gro mo mo mo</td>
</tr>
<tr>
<td>1,000,000 mo mo</td>
<td>10^5 mo mo mo mo</td>
</tr>
<tr>
<td>10,000,000 do mo mo</td>
<td>10^6 mo mo mo mo mo</td>
</tr>
<tr>
<td>100,000,000 gro mo mo</td>
<td>10^7 mo mo mo mo mo mo</td>
</tr>
<tr>
<td>1,000,000,000 mo mo mo</td>
<td>10^8 mo mo mo mo mo mo mo</td>
</tr>
</tbody>
</table>

Example: Expand “3-gro 4-mo, 5-do 6-mo”.

First we recognize that the first 3 digits preceding the largest subscript are “304”.

Next we notice that the largest subscript (3) indicates that the number has more than 3 × 3 and at most 3 × (3 + 1) digits. That is dek, el, or do digits. We have already accounted for two digits that leaves 7, 8, or 9 more, and only nine has exactly 3 groups of digits. Thus so far we have “304,abc,def,ghi”.

Repeating this reasoning, “5-do 6-mo” starts with “56” and mo has 1 for a subscript. Thus we have more than 3 × 1 and at most 3 × 2 digits that is 4, 5, or 6. Since we have already accounted for two digits that leaves 2, 3, or 4 more and only 3 has exactly 1 group.

Thus we have the rest of the number—“56,000”. Concatenating our results we obtain “304,abc,d56,000” and thus 304,000,056,000.

Got a friend into numbers who would appreciate a sample copy of our Bulletin?

Send in his or her name and electronic address—we’ll send one their way.
Introduction

The Home Prime Conjecture represents a very neat problem encompassing the interface of mathematics and technology. This problem first sparked a great deal of interest in 11X5; (1997) with a feature article in The Journal of Recreational Mathematics by Jeffrey Heleen entitled “Family Numbers: Constructing Primes by Prime Factor Splitting.” The iterative process is quite simple. Consider any composite integer and resolve this integer into its prime factorization. Concatenate the factors in order of increasing magnitude and factor the new integer that is formed. Repeat the process. The HOME PRIME CONJECTURE asserts that eventually a prime number will be obtained which is the Home Prime (HP) of the original composite integer. To cite an example, consider the decimal integer 10. The repeated factorizations and concatenations result in the eventual prime 773, which is the Home Prime of 10. The steps are furnished below:

\[
\begin{align*}
10 & \rightarrow (2)(5) \rightarrow 25 \\
& \rightarrow (5)(5) \rightarrow 55 \\
& \rightarrow (5)(11) \rightarrow 551 \\
& \rightarrow (7)(73) \rightarrow 773, \text{ a prime}
\end{align*}
\]

And so HP[10] = 773 in 4 steps.

More compactly, one may write

\[\text{HP}[10] \rightarrow (2)(5) \rightarrow (5)(5) \rightarrow (5)(11) \rightarrow (7)(73) \rightarrow \text{Prime 773 (4)}\]

in base ten where the last (4) indicates the number of steps needed for 10 to reach its Home Prime. Note that Home Primes are base-dependent in the sense that families of integers in the repeated factoring and concatenation process in one number base are generally not in the same family in a different number base. For example, in base ten, HP(10) = 773 while in dozenal, HP(10) = 25; Similarly, HP(12) = 223 while in dozenal, HP(10) = 3357. Here decimal numerals are in bold face to distinguish them from their duodecimal counterparts.

While many composite integers have their Home Primes generated in a few steps, the Home Prime for the decimal integer 49 (and subsequently the integers 77 and 711 which belong to the same family in the repeated concatenation process) remains unresolved after more than one hundred steps. This is due to the inability for even the most sophisticated technology to factor very large integers which is an NP hard problem. (For information on the complexity of algorithms which encompasses algorithmic procedures that can be performed in polynomial time versus those that are intractable, the reader is referred to the on-line mathematics encyclopedia Mathworld as reference 2 in the appended bibliography. Proceed in the alphabetical index to NP Problems.) The factoring algorithm is contingent upon the second largest prime factor when factoring a composite integer. If this second largest prime factor has many digits, the search may become stalled at that stage of the process. In my paper, I extend this classic Home Prime problem to the duodecimal base using the Mathematica Program to generate the Home Primes for every one of the 91; composite integers save 26; and 63; among the first gross of integers. Unfortunately the Home Primes for 26; and 63; are stalled in trying to respectively factor an 85; digit duodecimal and 109 digit decimal composite integer after 55; iterations. I am currently using Mathematica to potentially secure the common Home Prime for these two composite integers and this is a work in progress. In addition, a rechecking of my work for 54; and 68; indicates that the Home Primes have yet to be found for these composite integers as well. After 49; iterations for the integer 54; we are led to a 83; digit composite duodecimal integer (107 Digits decimally) such that factoring is extremely difficult. Similarly, after 57; iterations for the integer 68; we encounter a 79; digit composite duodecimal integer (100 digits decimally) for which factoring is seemingly intractable. These “forbidden four” represent the only integers for which I have yet to secure the Home Prime. This is in contrast to the decimal base where the integers 49 and 77 in the range 1-100 are such that the Home Prime Conjecture remains unresolved.

Our initial goal is to secure the Home Prime for a duodecimal integer. Let us consider the integer 20. Our repeated factorings and concatenations are as follows:

\[\text{HP}[20] \rightarrow (2)(2)(2)(3) \rightarrow (3)(3)(2)(3) \rightarrow (17)(37)(6b) \rightarrow (17)(37)(6b) \rightarrow (61)(320) \rightarrow (107)(59)(5)\]

Thus 10759X5 is the Home Prime of 20 achieved in five steps.

Let us contrast this with the Home Prime for the integer 24 in base ten. The iterations are displayed below:

\[\text{HP}[24] \rightarrow (2)(2)(2)(3) \rightarrow (3)(3)(13)(19) \rightarrow \text{Prime 33119 (2)}\]

Note decimally that 33119 (i.e. 13E892;e) is the Home Prime of 24 obtained in two steps. It should similarly be noted that the numeral 63; in base duodecimal do has a seemingly intractable composite integer to factor with regards to securing its Home Prime during step 59; in base twelve. In contrast, the Home Prime is reached in one step when taken as a decimal numeral:

\[\text{HP}[82] \rightarrow (2)(41) \rightarrow \text{Prime 241 (1)}\]

In a like manner, when 49 in base ten is taken as the duodecimal numeral 41; the repeated concatenation in securing the Home Prime is delightfully easy. We illustrate the steps below:

\[\text{HP}[41] \rightarrow (7)(7) \rightarrow (7)(11) \rightarrow \text{Prime 711 (2)}\]

Thus 711; is the Home Prime of 41; achieved in just two steps.

We next demonstrate all the Home Primes for the composite integers no greater than one gross with the exceptions of 54;, 68; and 26; and 63; which belong to the same family. For the latter integers, the iterations including the step where the process is stalled is duly noted. All integers are duodecimal unless otherwise indicated. At times, a large factor continues to a second line. In such a case, we read the entire integer in parentheses to distinguish them from their duodecimal counterparts.


Our initial goal is to secure the Home Prime for a duodecimal integer. Let us consider the integer 20. Our repeated factorings and concatenations are as follows:

\[\text{HP}[20] \rightarrow (2)(2)(2)(3) \rightarrow (3)(3)(2)(3) \rightarrow (17)(37)(6b) \rightarrow (17)(37)(6b) \rightarrow (61)(320) \rightarrow (107)(59)(5)\]

Thus 10759X5 is the Home Prime of 20 achieved in five steps.

Let us contrast this with the Home Prime for the integer 24 in base ten. The iterations are displayed below:

\[\text{HP}[24] \rightarrow (2)(2)(2)(3) \rightarrow (3)(3)(13)(19) \rightarrow \text{Prime 33119 (2)}\]

Note decimally that 33119 (i.e. 13E892;e) is the Home Prime of 24 obtained in two steps. It should similarly be noted that the numeral 63; in base duodecimal do has a seemingly intractable composite integer to factor with regards to securing its Home Prime during step 59; in base twelve. In contrast, the Home Prime is reached in one step when taken as a decimal numeral:

\[\text{HP}[82] \rightarrow (2)(41) \rightarrow \text{Prime 241 (1)}\]

In a like manner, when 49 in base ten is taken as the duodecimal numeral 41; the repeated concatenation in securing the Home Prime is delightfully easy. We illustrate the steps below:

\[\text{HP}[41] \rightarrow (7)(7) \rightarrow (7)(11) \rightarrow \text{Prime 711 (2)}\]

Thus 711; is the Home Prime of 41; achieved in just two steps.

We next demonstrate all the Home Primes for the composite integers no greater than one gross with the exceptions of 54;, 68; and 26; and 63; which belong to the same family. For the latter integers, the iterations including the step where the process is stalled is duly noted. All integers are duodecimal unless otherwise indicated. At times, a large factor continues to a second line. In such a case, we read the entire integer in parentheses as a factor. For example, in the concatenations related to the integer 26; the last factor in iteration 51; which is


reads:


Continued on page 15;
### Dozenal Home Primes for Integers up to One Gross

<table>
<thead>
<tr>
<th>Int</th>
<th>Ct</th>
<th>Home Prime</th>
<th>Int</th>
<th>Ct</th>
<th>Home Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>—</td>
<td>—</td>
<td>31</td>
<td>0</td>
<td>31</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>2</td>
<td>32</td>
<td>1</td>
<td>217</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>3</td>
<td>33</td>
<td>2</td>
<td>575</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>737</td>
<td>34</td>
<td>9</td>
<td>8,577,338,785</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>5</td>
<td>35</td>
<td>0</td>
<td>35</td>
</tr>
<tr>
<td>6</td>
<td>$\frac{1}{6}$</td>
<td>18,519,471,322,765</td>
<td>36</td>
<td>1</td>
<td>237</td>
</tr>
<tr>
<td>7</td>
<td>0</td>
<td>7</td>
<td>37</td>
<td>0</td>
<td>37</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>2111</td>
<td>38</td>
<td>2</td>
<td>1,517</td>
</tr>
<tr>
<td>9</td>
<td>3</td>
<td>575</td>
<td>39</td>
<td>2</td>
<td>537</td>
</tr>
<tr>
<td>X</td>
<td>1</td>
<td>25</td>
<td>3X</td>
<td>1</td>
<td>216</td>
</tr>
<tr>
<td>E</td>
<td>0</td>
<td>E</td>
<td>3E</td>
<td>6</td>
<td>3E</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>3357</td>
<td>40</td>
<td>2</td>
<td>335,321</td>
</tr>
<tr>
<td>11</td>
<td>0</td>
<td>11</td>
<td>41</td>
<td>2</td>
<td>711</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>27</td>
<td>42</td>
<td>1</td>
<td>255</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>35</td>
<td>43</td>
<td>1</td>
<td>315</td>
</tr>
<tr>
<td>14</td>
<td>$\frac{14}{14}$</td>
<td>— See Extended Table Below —</td>
<td>44</td>
<td>4</td>
<td>221,776</td>
</tr>
<tr>
<td>15</td>
<td>0</td>
<td>15</td>
<td>45</td>
<td>0</td>
<td>45</td>
</tr>
<tr>
<td>16</td>
<td>2</td>
<td>391</td>
<td>46</td>
<td>24</td>
<td>— See Extended Table Below —</td>
</tr>
<tr>
<td>17</td>
<td>0</td>
<td>17</td>
<td>47</td>
<td>1</td>
<td>5E</td>
</tr>
<tr>
<td>18</td>
<td>1</td>
<td>225</td>
<td>48</td>
<td>6</td>
<td>313,588,535</td>
</tr>
<tr>
<td>19</td>
<td>1</td>
<td>37</td>
<td>49</td>
<td>4</td>
<td>3,535,553</td>
</tr>
<tr>
<td>2X</td>
<td>2</td>
<td>57</td>
<td>4X</td>
<td>1</td>
<td>225</td>
</tr>
<tr>
<td>1E</td>
<td>0</td>
<td>1E</td>
<td>46</td>
<td>0</td>
<td>46</td>
</tr>
<tr>
<td>20</td>
<td>5</td>
<td>107,595X5</td>
<td>50</td>
<td>2</td>
<td>5531</td>
</tr>
<tr>
<td>21</td>
<td>2</td>
<td>511</td>
<td>51</td>
<td>0</td>
<td>51</td>
</tr>
<tr>
<td>22</td>
<td>2</td>
<td>737</td>
<td>52</td>
<td>2</td>
<td>525</td>
</tr>
<tr>
<td>23</td>
<td>X</td>
<td>18,519,471,322,765</td>
<td>53</td>
<td>4</td>
<td>517X7</td>
</tr>
<tr>
<td>24</td>
<td>2</td>
<td>£25</td>
<td>54</td>
<td>*</td>
<td>— In Progress —</td>
</tr>
<tr>
<td>25</td>
<td>0</td>
<td>25</td>
<td>55</td>
<td>1</td>
<td>£11</td>
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<tr>
<td>26</td>
<td>$\frac{1}{26}$</td>
<td>— In Progress —</td>
<td>56</td>
<td>1</td>
<td>£57</td>
</tr>
<tr>
<td>27</td>
<td>0</td>
<td>27</td>
<td>57</td>
<td>0</td>
<td>57</td>
</tr>
<tr>
<td>28</td>
<td>4</td>
<td>765,5143E</td>
<td>58</td>
<td>1</td>
<td>2215</td>
</tr>
<tr>
<td>29</td>
<td>1</td>
<td>3E</td>
<td>59</td>
<td>2</td>
<td>5711</td>
</tr>
<tr>
<td>2X</td>
<td>4</td>
<td>5237</td>
<td>5X</td>
<td>7</td>
<td>177,591</td>
</tr>
<tr>
<td>2E</td>
<td>1</td>
<td>57</td>
<td>5E</td>
<td>6</td>
<td>5E</td>
</tr>
<tr>
<td>30</td>
<td>3</td>
<td>251,345</td>
<td>60</td>
<td>2</td>
<td>357,255E</td>
</tr>
</tbody>
</table>

### Extended Table

<table>
<thead>
<tr>
<th>Int</th>
<th>Ct</th>
<th>Home Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>14</td>
<td>15,59X6,773,607,573,339,047,535,515,081,5E</td>
</tr>
<tr>
<td>46</td>
<td>24</td>
<td>3,517,531,354,2X5,47,491,319,184,775,589,30,501,81</td>
</tr>
</tbody>
</table>

This table lists each duodecimal integer "Int" in red, up to one gross, the Count ("Ct", number of steps) in the second column needed to achieve its corresponding Home Prime in the third column. Note that any prime requires zero steps to reach the Home Prime, namely itself. Visit [http://www.Dozenal.org/adjunct/db4b211.pdf](http://www.Dozenal.org/adjunct/db4b211.pdf) to review any new iterations in the process for each of these integers. This document will be updated with regards to 26E, 54E; 68E; and 63E; if and when we obtain more fruitful results, allowing interested readers to peruse them at leisure.
It is of interest to note that the mapping of a duodecimal integer into its Home Prime is not one-to-one in the sense that different duodecimal integers can possess identical Home Primes and hence belong to the same family. The following is a list of duodecimal integers less than one gross that have the same Home Prime:

<table>
<thead>
<tr>
<th>Integer</th>
<th>Home Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 and 22</td>
<td>HP = 737</td>
</tr>
<tr>
<td>6 and 23</td>
<td>HP = 18561947132273</td>
</tr>
<tr>
<td>9 and 33</td>
<td>HP = 575</td>
</tr>
<tr>
<td>1X and 2E</td>
<td>HP = 57</td>
</tr>
<tr>
<td>X1 and £E</td>
<td>HP = 5f1</td>
</tr>
</tbody>
</table>

**Pseudocode**

We next furnish an illustration of pseudocode to furnish the Home Prime of a composite integer as well as discuss the role a CAS (Computer Algebra System) program such as Mathematica handles the task. The CAS program Mathematica, a copyright of Wolfram Research, Inc., enabled me to conduct my searches. In the program, the commands `IntegerDigits[]` (to convert a decimal numeral to another base) and `FromDigits[]` (to convert a numeral in a different base to base ten) are utilized as well as `FactorInteger[]` to resolve an integer into its standard prime factored form. A sample problem follows below in which we secure the Home Prime in Base Twelve for the duodecimal integer X3 (133). We note that since the computer does not perform duodecimal arithmetic, it necessitates one to keep moving back and forth between duodecimals and decimals. The following is an example of pseudocode to secure the Home Prime of X3:

**Mathematica Code Legend**

```
FactorInteger[123]
```

```
{(3,1), {41,1}}
```

**Mathematica Code Legend**

```
IntegerDigits[{3,41,12}]
```

```
{(3), {3,5}}
```

**Mathematica Code Legend**

```
FromDigits[{3,3,5}]
```

```
473
```

**Mathematica Code Legend**

```
FactorInteger[473]
```

```
{(11,1), {43,1}}
```

**Mathematica Code Legend**

```
IntegerDigits[{11,43,12}]
```

```
{(11), {3,7}}
```

**Mathematica Code Legend**

```
FromDigits[{11,3,7}]
```

```
1627
```

**Mathematica Code Legend**

```
FactorInteger[1627]
```

```
{(1627,1)}
```

The following is an example of pseudocode to secure the Home Prime of X3:

**Mathematica Code Legend**

```
Input Prompt
```

```
User Input
```

```
FactorInteger[123]
```

```
{(3,1), {41,1}}
```

```
Prime
```

**Mathematica Code Legend**

```
Output Prompt
```

```
Mathematica Output
```

```
123
```

```
(3)(41)
```

```
(3)(35)
```

```
473
```

```
(11)(43)
```

```
(5)(37)
```

```
1627
```

```
1627 is prime
```

**References:**


---

Mathworld, a Wolfram Resource managed by Dr. Eric Weisstein of Wolfram Research, Inc. is an excellent source for everything mathematical and scientific, including a paragraph on our society found under the letter “D” obtainable in the alphabetical index on their website, www.mathworld.wolfram.com. Under the letter “H” is Home Prime which accesses a neat article devoted to this mathematical recreation. Contributors to Mathworld are Dr. Eric Weisstein as well as numerous mathematicians throughout the world. While Home Primes in bases up to ten have been investigated, there is nothing dealing with bases higher than ten which led me to initiate my research. I would be grateful if anyone can eventually factor the large composite integer that has stalled my search in securing the common duodecimal Home Prime for the duodecimal integers 26; and 6X; as they both belong to the same family.


17; one dozen eleven

The Duodecimal Bulletin

Volume 46; Number 2; Whole Number 96; two dozen 20;
Mathematics and Computer Education is published in the Winter, Spring, and Fall, and provides useful, interesting articles for teachers in colleges.

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Volume 46; Number 2; Whole Number 96; two dozen two 22
Find the base, \( b \), used in each of the following.
Hints: Each equation is written in its base, \( b \).
For example \( 47 = 4b + 7 \) and \( b > 7 \). The base of a logarithm is an integer > 1.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Equation</th>
<th>Base</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>( \log_b 24 - \log_b 3 = \log_b 8 ) ( (2b + 4) / 3 = 8 )</td>
<td>( b = \chi )</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>( 2 \log_b 5 = \log_b 31 ) ( 5^2 = 3b + 1 )</td>
<td>( b = 8 )</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>( \log_b 4 + \log_b 30 = \log_b 100 ) ( 4(3b) = 100 ) ( 10b = b^2 ) ( b = 10 )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>( \log_b 100,000 = 101 ) ( 5^2 = b^2 )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>( -\log_b 100 = -2 ) ( b^2 = b^2 )</td>
<td></td>
<td>Which is true for all bases &gt; 2.</td>
</tr>
<tr>
<td>6.</td>
<td>( \log_b 5 = -2 ) ( b^2 = 5 ) ( b = \sqrt{5} )</td>
<td></td>
<td>Which is not an integer, hence there is no solution.</td>
</tr>
</tbody>
</table>

In a cryptogram, each letter has been replaced by a different letter. To solve the puzzle, one must recover the original lettering.

**FTQ NQEF MDGQYQZF RAD NMEQ FIQX**-
**HQ AHQD NMEQ FQZ UE M XAAW MF FTQ**

**RDMOFUAMX QJBDQEEUAM RAD 1/3 UZ**

**NAFT NMEQF.**

---

**Editor’s Note:** Hint on page 24;!

---

A possible algorithm written in pseudocode for the Featured Figures challenge from page 7:

```
Set x = to the desired exponent
Loop as r goes from 1 to 30
  Set Base 10; numeral a = to x^n
  Set Base 10; numeral b = to x^(-n)
  Set Base 10; numeral c = to r
  Print line a, c, b
End Loop
```

Visit www.Dozenal.org/adjunct/db4b207.pdf to download the Society’s Mathematica output with similar data on the first 5 primes!}

---

One of the benefits of dozenal is its succinct, regular (non-repeating) representation of the commonest fractions. The decimal equivalents of such fractions, apart from the half, are either longer, or are repeating fractions. Dozenal expansions appear above, on the right of each figure, with their decimal-expansion equivalents shown below.

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**Key Dozenal Fractions**

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**Thirds**

- 0;4 (0.333...)
- 0;3 (0.666...)

**Quarters**

- 0;3 (0.25)
- 0;9 (0.75)

**Eighths**

- 0;16 (0.125)
- 0;625 (0.875)

**One-Dozen-Fourths / Sixteenths**

- 0;09 (0.0625)
- 0;53 (0.4375)
- 0;69 (0.5625)
- 0;9375 (0.875)

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The briefer, regular digital representations of these common fractions simplifies calculations such as addition shown in the dozenal examples below. Dozenal simplifies the everyday calculations we might use in the kitchen or the worksite. Use dozenal in your own everyday calculations and see for yourself!
Mr. Gene Zirkel, DSA Life Member №. 67; and Fellow, writes on behalf of Mr. Bryan Ditter:

» Dear Mike,

I received a call from Bryan Ditter. His daughter Sharon Ditter joined the DSA in 1994 as Member №. 343; but along the way she moved and we lost contact with her.

He ... asked about the possibility of getting copies of all the Bulletins she missed. He wanted to give them to her as a gift.

Are the Bulletins on the web as of now? Is it possible that we could tell him how to access the old Bulletins and then in turn he could present her with that info as a gift?

Stay cool!

≋ Fond regards,
Gene ⋆

» Dear Gene,

Mr. Ditter can visit www.Dozenal.org/archive/archive.html, the Duodecimal Bulletin Archive Index, to reach all the posted digital copies of the Bulletin. If she’s missed anything in the last dozen issues, these either haven’t been optimized nor posted [yet].

≋ Cordially,
Mike D* Vlieger, [DSA Life Member №. 37%]
EDITOR, The Duodecimal Bulletin ⋆:

Mr. Timothy F. Travis, DSA Member №. 342; wrote in a July 2010. email conversation:

» Gene,

I have created a font [conveying] my seven-stroke dozenal numbers using www.fontstruct.fontshop.com. [EDITOR'S NOTE: Travis' numerals are: 0 12345679ab; the digit-ten is called “dek”, the digit-eleven is called “brad”; see Vol. 4ε; №. 1 wn 9ξ, page 8.]

≋ Timothy ⋆:

» Gene,

Attached is an article in PDF that may be of interest for the Bulletin [Ed.: the article appeared in Vol. 4ε; №. 1 wn 9ξ, entitled “Dozenal Counting on Your Fingers”]. If you think an article giving detailed instructions on how to use fontstruct.fontshop.com to create the Digital Dozenal numbers as a font members can use, let me know and I will submit it.

≋ Timothy ⋆:

» Michael, [in reply to a technical response by M. D* Vlieger]

I used [AutoDesk] AutoCad to produce the article because [the article included] a drawing and because, even though I can use fontstruct to put the digital font numbers in an article and print it out, I do not know how to send it in an e-mail.

Another subject: The cover of the Duodecimal Bulletin. Would there be a lot of resistance to considering updating the cover? [Ed.: the cover was updated in 2008.]

“Dozenal” has replaced “Duodecimal” as the word for base[-twelve] numbering. I would drop “Duodecimal” and call the Bulletin something like “The Dozenal Bulletin” or “The Bulletin of the Dozenal Society of America”.

What is the circle on the cover [See Figure 2.] supposed to actually represent? It is not a [twelve-]hour clock face. What is it? I suggest something of a more graphic design. Please see the attached drawing. [See Figure 3.] If the clock and day part is too much, how about just the [twelve-]point star, with or without the numbers?

If we are going to indicate Dozenal dates, where are we going to start? Remember that our regular calendar does not have a year zero. It starts at 1. Do you have a copy of my book? [4000, The Fifth Milenium, Six Revolooshunairy Iedeas, 1994.] I would be glad to send one if you wish and if you give me your mailing address. I have a section on Dozenal dates and years.

≋ Timothy ⋆:

» Mr. Travis,

No, I don’t have your book but would very much enjoy reading it. I’ve read about it in the Bulletin and had visited your website when it was up. I’ve discovered parts of it preserved at www.archive.org.

There never should be “resistance to considering” any idea. (There may be resistance in adopting it!) I’ve thought it through and wrote a long response. Here’s an execsum [i.e. executive summary] in place of a longwinded reply:

The Bulletin is set up the way it is today, (even after my own digitalization, redesign, and modernization of it) to communicate content to our readers in a neutral, unbiased way.

The conventions (Dwiggins numerals [X = digit-ten, S = digit eleven], the classic logo, and the publication title) act to edify the authors featured within the covers by being a “safe”, neutral vehicle. Articles like your own or those of others are where the reader ought to find the brilliance, flair, and interest. As Editor, my job is to communicate your thought as clearly to the reader as possible; my job is to stimulate their thought through articles like yours and related content.

I reserve a deep respect for Ralph Beard, our first Editor, though I never met him. He aimed to ensure that “there will be unbiased presentation of all such proposals” and that’s what I aim to uphold and defend.

≋ Have a happy Friday!,
Michael Thomas D* Vlieger ⋆:

Volume 4ε; Number 2; Whole Number 9ξ;
Dear Timothy,

Mike forwarded his response to your letter to me. The circle [Figure 2] is our official seal. We once had a metal device to emboss it on a document but it broke and we did not think the expense of replacing it was worthwhile [See Figure 1 Page26; for the embossed facsimile that graced the covers of the “classic” Duodecimal Bulletin (Vols. 1–25;)]. In a similar vein, we decided to retain our Duodecimal Bulletin title for emotional reasons; it was a good part of our history. Both of these date back to our Founders. Either or both could be changed if we decided it was a good idea. I personally favor keeping them, but I am open to ideas and reasons. As to the year, why start anew? Is there any problem with writing the current year as 1156? I feel the fewer changes we ask people to make, the more converts we can attract.

Regards,
Gene

Ms. Doris Demarest, DSA Supporting Member №. 303; sent in:

Dear Mr. [De]Vlieger,

I do not have the Duodecimal Bulletin (Vol. 4X; №. 2 WN 997). I will send my dues tomorrow in the amount of $36 to the address at the bottom of the subscription form. I really enjoy the Bulletins, so I’m sure I will appreciate receiving them in the mail rather than on the computer. I am not very computer-literate as you might guess. I hope you will send WN 99; with the ones that come out in the future. If I owe you more money let me know.

Doris Demarest;

Dear Ms. Demarest,

Thank you for your Membership! I think I owe you an explanation.

I do apologize that the Bulletins are not as timely as they ought to be. All our work is volunteer and has to do with when folks are available to produce them. We are trying to get back on schedule.

The 3 dozen 4 page WN 9X; has gone to press, and the press master was sick (an operation). There are 4 small high quality presses like this one in St. Louis, this one is the closest (across the street!) which makes press checking convenient. The electronic copy comes out quickly, as soon as the final review clears. Normally there’s a week between the electronic and the hardcopy but this was complicated by the holidays and the press master’s absence. WN 96; [this issue] is mostly composited. One of the authors wrote a data-intensive article. Late in the production process he discovered some errors in his data, and needed to pull the data until he ran a full check. Now the check is done and I have yet to apply changes. On my plate, I run a business; business has been abysmal this year, but right now there’s a large project in house and it needs full attention till 15. December. After 15. December, there is time to mail WN 9X; and finish WN 9E; but a new project is moving in. On top of this it is now Christmas season and that means the post office will be jammed … So all of this is colluding to make for some late Bulletins.

I have a plan to get back on track. The plan was to have both WN 9X; and WN 9E; come out with about a month between them. It now seems that WN 9E; will come out sometime between January and February. I have some contributors lined up for WN X0; and have put together one of their articles. [As of mid January 2011, WN X0; is about 90% complete]. There are more articles coming in for that issue. I hope to shift the Bulletin

emergencies from May-December. This is because these are intensive times for both the academics involved in review and my own business. If we could move emergence to January-February and July-August, this seems better all around. WN X0; should come out in May. Then we should be back on track.

Ms. Demarest, this organization isn’t too large that folks fall through the cracks. Please be assured that I will get you the Bulletin copies you desire. You are on my mind, keeping me motivated to get the Bulletin out in a timely manner. I do hope you enjoy the coming issues!

Happy holidays to you and yours,
Michael Thomas Dv Vlieger

Mr. Mike Ruocco, at the NPR Science Desk, wrote the following email after chatting on the telephone with Gene Zirkel:

Hi Gene,

This is Mike from NPR (National Public Radio), we just spoke on the phone. I just wanted to say thank you for the help and that below I've included a link to the ongoing series, entitled “Kruwicz Wonders”, in which we will mention the Dozenal Society of America.

Kruwicz Wonders:

[Ed.: Here is a more recent link than the one in the original message: http://www.npr.org/blogs/kruwicz/12/12/13196851/12-12-is-coming-how-to-celebrate#more]

Thank you again for your help, it is greatly appreciated.
Mike Ruocco

Mr. Peter B. Andrews, DSA Member №. X9; wrote on 14. June 2010.:

Dear Michael,

I have been a member of the Dozenal Society ... for many years, and my father, F. Emerson Andrews, was one of the founders of the Society.

I am sure that a lot of effort was devoted to setting up the current method of distributing the electronic Duodecimal Bulletin, and it is a nice advance, but I would like to suggest a further improvement. I would suggest imitating the Association for Automated Reasoning, which has all of its newsletters available for all to see at any time at the web site http://www.aairinc.org/.

The objectives of the Society would be best served by making the Bulletin freely available to anyone who would like to look at it. I notice that the Dozenal Society already has a web site, so it might be quite easy to make this change. Of course, it would still be useful to inform members by email when new issues of the Bulletin appear.

I hope you will give serious consideration to this proposal.

Best regards,
Peter B. Andrews

Editor’s Note: The Dozenal Society has recently taken Mr. Andrews’ advice to heart and produced the Duodecimal Bulletin Digital Archive, at www.Dozenal.org/archive/archive.html, with a pictorial archive at www.Dozenal.org/archive/dlbpict.html. We are building tables of content pages (TOC) so that one doesn’t need to download issues to see what they’re about. Our archive compares well with the AAR archive. The Society owes Mr. Peter Andrews a debt of gratitude for his brilliant suggestion.

Volume 46; Number 2; Whole Number 96; two dozen eight 28;
The Dozenal Society of America celebrates the ten-dozenth issue of its Duodecimal Bulletin in early 11b7!

In honor of this milestone, we’ll examine the “long hundred” of our Nordic forefathers, and highly divisible numbers in general. Bill Lauritzen shoves prime numbers out of the limelight. Ulff-Møller, Germanic long hundred of ten dozens. Mike D° Vlieger vali dates the dozenal division of the circle, using geometry, practicality, and drafting tools. The Bulletin interviews Australian Wendy Y. Krieger on her use of base-ten-dozen, a number she calls “Twelfty”. This issue is packed with color illustrations and plenty of new ideas to consider. It will surely stand as a collector’s item among dozenalists! Make sure you receive a hard copy by joining or renewing your Membership at the supporting level for only three dozen dollars (USD $36.) for the year! Your membership dues and donations have helped the Society publish its Bulletin for five dozen six years—and counting! Join us for this gala, at the intersection of the decade and the dozen, in Whole Number X0! )))

JOIN THE DSA TODAY!

You are invited to join the Dozenal Society of America!
The only requirement is a constructive interest in duodecimals!
Dues include a subscription to the Duodecimal Bulletin.
We depend on you! Annual dues are due as of 1 January. Make your checks for only one dozen six dollars ($18.) payable to the Dozenal Society of America and receive an electronic copy of the Duodecimal Bulletin, or be a Supporting Member at three dozen dollars ($36) and receive a paper copy of the Duodecimal Bulletin. Student dues are $3. A limited number of free memberships are available to students. As you know, our continued work depends very much upon the tax deductible dues and gifts from our Members.

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We’d be delighted to see you at our meetings, and are always interested in your thoughts and ideas. Please include your particular duodecimal interests, comments, and suggestions on a separate sheet of paper.

Mail this form and payment to:

The Dozenal Society of America

472 Village Oaks Lane

Babylon, LI NY 11702-3123

Volume 4; Number 2; Whole Number 9ε;
Please Send in Your Dues