



# Dozenal Jottings

The new official newsletter of the Dozenal Society of America

Issue One • February 10<sub>z</sub>, 1207<sub>z</sub> (February 12<sub>d</sub>, 2026<sub>d</sub>)

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## ANNOUNCEMENT: NEW NEWSLETTER

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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 *dozenal* (also called *duodecimal* or *base-twelve*) in calculations, mathematics, weights and measures, and other branches of pure and applied science.

The DSA does not endorse any particular notation or pronunciation scheme for alternative bases. However, this publication defaults to using the Pitman 7 and 8 as digits ten and eleven, but may also use the “Computerese” transdecimal digits A through Z to represent larger bases. To distinguish numerals in different bases as compactly and equitably as possible, this publication uses single-character subscript base annotations, e.g.  $d = \text{decimal}$ ,  $z = \text{dozenal}$ ,  $x = \text{hexadecimal}$ , etc.

GREETINGS dozenal fans! The Dozenal Society of America is reaching out to our members with this introductory issue of our new email publication, *Dozenal Jottings*. If you are receiving this, it’s because you previously signed up as a member of the DSA, and included an email address.

One reason for sending this out is to reassure you all that we are still here, still earnestly endeavoring to promote interest in dozenal arithmetic and related topics, despite setbacks the Society has experienced in recent years. Alas, losing certain people has meant their skills went with them. It’s taken a surprising amount of work, research, and no little bit of hoop-jumping to reconstitute lost capabilities.

This email newsletter is free to all members. Those of you who also signed up as paid subscribers are entitled to receive hard copies of our regular full-format publication, the *Duodecimal Bulletin*, via the regular postal service. The *Bulletin* covers longer and more scholarly articles of dozenal interest. *Jottings* is not meant to replace the *Bulletin*; it is intended as a forum for shorter and more timely news items, as well as for any messages or ideas members or friends would like to share with the rest of the Society.

*Jottings* may superficially resemble our previous email newsletter, the *DSA Newscast*, which had been edited by our former president, Don Goodman. However, we don’t plan for *Jottings* to be simply a continuation of Don’s newsletter. The format of *Newscast* was somewhat regimented, with a feature article (sometimes editorial in nature), followed by “Dozenal News,” “Society Business,” a “Poetical Diversion,” and so forth. *Jottings* may eventually include some or all of these elements, but at least for now, the format here will remain somewhat more

free-form, and hopefully more directed by you, the membership of the Society.

We apologize in advance if the first few issues of *Jottings* turn out to be longish. The Society has some catching up to do...

### WHY “JOTTINGS”?

The name of this newsletter, *Dozenal Jottings*, is something of an homage to the history of the Dozenal Society of America, going back to its founding in 1160<sub>z</sub> (1944<sub>d</sub>).

One of our earliest members, William S. Crosby, while still serving as a soldier in World War II, wrote an insightful letter which he titled “Uncial Jottings of a Harried Infantryman”. This was published in the *second issue of the Bulletin*. (It was also reprinted in *Bulletin Whole Number 72<sub>z</sub> (122<sub>d</sub>)*.)

A generation later, starting in 1191<sub>z</sub> (1981<sub>d</sub>), and continuing for nearly two dozen years, the *Bulletin*, under the esteemed editorship of Patricia Zirkel, included a regular column titled “Dozenal Jottings.” This featured correspondence from our members and others, as well as short items of news. This is what we are trying to revive with this new publication. So send us your jottings!

### A REQUEST TO OUR MEMBERS

We have a request for all members, but especially *Bulletin* subscribers: If you have moved since you first signed up, please send us an email to [contact@dozenal.org](mailto:contact@dozenal.org), with your updated mailing address.

If you have an item of news, or just an interesting idea or question related to dozenal, that you’d like to share with other dozenalists, please don’t hesitate to pop an email to [editor@dozenal.org](mailto:editor@dozenal.org), so we can consider it for a future *Jottings* issue. ■■■

## BOARD MEETING: WEBSITE PROJECT

*This article combines a formal report by John Volan with minutes of a special DSA Board meeting recorded by Michael De Vlieger.*

IF YOU VISIT our website, [dozenal.org](https://dozenal.org), you may notice that there have been some changes recently. Internally, the website has been substantially reorganized.

This represents a major project undertaken over the last several weeks by John Volan, DSA Vice President and current Editor of the *Duodecimal Bulletin*.

This was enabled in no small part by the efforts of our current DSA President, Graham Steele, who in March 1207<sub>z</sub> (2023<sub>d</sub>) established a repository for our website content on [Github](https://github.com), an online version control system. Github allows a developer to stage changes in the repository, and then allows reviewers to review the changes and comment on them, and even to download and test the website on their own local machines, prior to deploying the changes to the live website.

However, the other members of the Board lacked sufficient technical experience to utilize this tool effectively. So John held Zoom meetings on January 21–22<sub>z</sub>, 1207<sub>z</sub> (January 25–26<sub>d</sub>, 2026<sub>d</sub>), during which he provided a live walk-through demonstration of the changes to members of the DSA Board of Directors, including Mike De Vlieger (current DSA Secretary), Paul Rapoport (special Board member at large), Jay Schiffman (current DSA Treasurer and Board Chair). Graham has been overseas for several months, but John has also been in contact with him via the Signal app.

After generally approving the changes, the participants all agreed that the most expedient course of action would be to deploy the changes live and then test out the live website. John would be able to make incremental fixes for any issues discovered after the fact and quickly deploy them to the site. (This has actually worked out well.)

### WEBSITE CHANGES

#### Everything Has Moved

Nearly every file has been moved to a new location, in order to simplify and flatten the site structure. In particular, the directories `/drupal/content/` and `/drupal/sites_bck/default/files/`

have been eliminated. It has been several years since our site content was managed in Drupal, so this structure long ago stopped having any relevance or function.

Moreover, files have been renamed in order to group related files together. In particular, there is often a webpage (`.html` file) associated with a downloadable document (usually a `.pdf` file) along with a thumbnail image (`.png` or `.jpg` file) of that document. Such files will now all share the same file name, only differing in their file extension. (This is in addition to no longer being widely separated in different directories.)

Furthermore, files have been sorted together by giving them common prefixes based on the logical headings they belong to. These headings have been visible as buttons on the “navigation bar” at the top of every page. (This is a pre-existing feature of the website, which John has not changed.) All files listed as issues under the *Duodecimal Bulletin* section now start with `duodecimal-bulletin-*`. All files listed under the *Articles and Books* section now start with `article-*`. All files listed under the *Resources* section now start with `resource-*`. Articles, books, and resources with authors also bear the author’s surname as an additional prefix. And so forth. All files have been normalized to use hyphen as word separator.

#### No Broken Links

Despite all these changes, care has been taken to ensure that old URLs pointing into our content have not been broken. They will continue to be honored, and will be redirected to their new locations.

Much thanks to Graham for his technical expertise in getting our domain registered on a new domain name service (at [namecheap.com](https://namecheap.com)); and then getting our website hosted on a new virtual server (running in the Cloud at [linode.com](https://linode.com)), which he configured as a conventional Apache web server; all while remaining within the Society’s limited budget. This made it easy for John to configure Apache-compatible HTTP rewrite rules to map our old URLs to our new ones.

Note that older documents or other sites may contain even older URLs that used to exist on our website, but that may have been broken when the site was migrated to Drupal. Our membership is encouraged to keep on the lookout for such old URLs; if you spot any, please email them to [editor@dozenal.org](mailto:editor@dozenal.org). We may be able to fix those broken links as well, by including rewrite rules redirecting them to where the same content exists now.

However, unless you are paying attention to the URLs in your browser’s address bar, you may not even notice any of these structural changes. Let’s look at the more visible changes to the site.

#### Notational Changes

The biggest change you may notice is how numerals are formatted. On our web pages at least, we are now using so-called “Computerese” transdecimal digits, A = ten, B = eleven, C = dozen, D = dozen-one, E = dozen-two, F = dozen-three, and potentially all the way up to Z = two-dozen-eleven. We are also using base-neutral single-character subscripts to annotate the base of every numeral containing at least two digits, e.g. `d` = decimal, `z` = dozenal, `x` = hexadecimal, `v` = vigesimal, etc.

Unfortunately, we are unable to use the Pitman `⌘` = ten and `⌘` = eleven digits on our web pages. Despite their acceptance into Unicode more than ten years ago, font support for them has still not penetrated to all browser platforms, particularly mobile phones. In order to ensure maximum readability for our visitors, no matter what device they are using, we must resort to “Computerese” digits A = ten and B = eleven instead. That said, we still endeavor to use the Pitman digits in our PDF documents, such as the *Bulletin* and this *Jottings* newsletter, where we can avail ourselves of advanced typesetting software such as L<sup>A</sup>T<sub>E</sub>X.

In the interest of providing an equitable and comprehensive treatment of numeric bases, with “least-change” in the meaning of digits across *all* bases, we are no longer using X and E (or T and E) to represent digits ten and eleven, since the

“Computerese” mapping gives those letters different values. In particular, those letter-as-digit choices no longer appear as such in file names, since alphanumeric file sorting would fail to maintain the intended dozenal ordering.

Wherever you see a dozenal numeral on our site, in most cases we’ll now immediately follow it with its decimal equivalent in parentheses. This is motivated by our emphasis on education: Every such juxtaposition is an opportunity to provide a mini “Rosetta Stone” for newcomers to dozenal. Even though many of us imagine a day when dozenal is simply the universal default base, we accept that today is not yet that day. It would be pretentious to act as though it were, particularly at the expense of those coming to our website for the first time, curious to learn, but

perhaps initially confused by these “new numbers.”

We find that using subscript base annotations is the most compact and versatile way to distinguish dozenal numerals from decimal numerals, or from any other base we might want to represent.

In support of these changes, the editorial “[Radically Conventional](#)” and the article “[Base Annotation Schemes](#)”, both from 11E<sub>z</sub> (2015<sub>d</sub>), have been published in the [Articles and Books](#) section.

### New Expanded Footer

Every page on our site displays a common footer at the bottom, which has now been updated and expanded. The copyright has been brought up to date, and the version of the [Creative Commons Attribution License](#) has been upgraded.


Next, the footer provides a standard disclaimer that the DSA does not endorse any particular notation or pronunciation scheme for alternative bases, but explains the default notations used in our web pages. This is followed by a banner demonstrating the first three dozen whole numbers expressed in decimal, dozenal, and hexadecimal, using this scheme.

The next section gives a brief history of notations that the DSA has used in the past, as seen in our PDF documents.

The following section provides a short demonstration of dozenal’s superior divisibility compared to decimal, suggesting that dozenal arithmetic would be easier to learn.

Finally, the footer displays the long-standing motto of the DSA: “Each One, Teach One.”

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This site expresses numbers in alternative bases, particularly [dozenal](#) (also called [duodecimal](#), or [base twelve](#)).

The DSA does not endorse any particular notation or pronunciation scheme for alternative bases.

However this site defaults to the following to ensure online readability across all platforms:

“Computerese” uppercase letters represent transcendental digits: A = ten, B = eleven, C = twelve, etc.

Single-character subscripts annotate bases: d = decimal, z = dozenal, x = hexadecimal, etc., e.g., 2014<sub>d</sub> = 11BA<sub>z</sub> = 7DE<sub>x</sub>.

(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 30 31 32 33 34 35 36 ...) <sub>d</sub>

(0 1 2 3 4 5 6 7 8 9 A B 10 11 12 13 14 15 16 17 18 19 1A 1B 20 21 22 23 24 25 26 27 28 29 2A 2B 30 ...) <sub>z</sub>

(0 1 2 3 4 5 6 7 8 9 A B C D E F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F 20 21 22 23 24 ...) <sub>x</sub>

PDF documents on this site reflect changing practices among dozenalists over the years:

Various symbols have been used to represent digits ten and eleven:

Dwiggins X and E (often rendered X and E); Bell Telephone \* and #; Pitman turned 2 and 3 (Z and E); etc.

Italics were once used to distinguish dozenal numbers from decimal: e.g., 0.5 = 0.5<sub>d</sub>.

Later, semicolon became a separate-identity “dozenal point”, versus period as “decimal point”: e.g., 0.5 = 0.5<sub>d</sub>.

However, subscript base annotations provide a more versatile solution that is least-change: e.g., 0.5<sub>d</sub> = 0.5<sub>z</sub> = 0.5<sub>x</sub>.

[Dozenal](#) offers superior divisibility over decimal, which can make everyday arithmetic easier to learn:

$\frac{1}{6} = 0.2_z \mid \frac{1}{4} = 0.3_z \mid \frac{1}{3} = 0.4_z \mid \frac{1}{2} = 0.6_z \mid \frac{2}{3} = 0.8_z \mid \frac{3}{4} = 0.9_z \mid \frac{5}{6} = 0.A_z$

$\frac{1}{6} = 0.1666..._d \mid \frac{1}{4} = 0.25_d \mid \frac{1}{3} = 0.333..._d \mid \frac{1}{2} = 0.5_d \mid \frac{2}{3} = 0.666..._d \mid \frac{3}{4} = 0.75_d \mid \frac{5}{6} = 0.8333..._d$

EACH ONE, TEACH ONE.

### Fleshed-Out Issue Pages

Each issue of the [Bulletin](#) has a dedicated web page on our site. Heretofore these issue “landing” pages had very little information on them beyond what was already shown on the master list page. John has now greatly fleshed these pages out by copying the table of contents of each issue from its PDF document into HTML. This represented a major portion of the effort going into this site upgrade project.

These pages have also been renamed duodecimal-bulletin-NNN, where

NNN is the Whole Number of the issue, in dozenal, using “Computerese” A and B for digit ten and eleven, zero-padded to three digits to allow for future expansion. This scheme allows files to sort alphabetically into chronological order, in a straightforward way, on most computing systems.

Similar landing pages have been added for each issue of [DSA Newscast](#). (The same will be done for [Dozenal Jottings](#).)

### Bulletin “Chronology”

The subsection of the [Bulletin](#) pages heretofore called [Pictorial Synopsis](#) has been renamed simply [Chronology](#). (Everything on our website is “pictorial.”) Each page in this subsection groups a set of a dozen issues (a “duodecade”) with a short essay describing what the DSA was going through during that time. This section had been authored by Mike in his former role as DSA President and webmaster, and later extended by John as current Editor, to cover the latest issues.

These pages have largely been kept intact, but rather than naming each file by its essay title, they have all been renamed duodecimal-bulletin-chronology-NNN, where NNN is the Whole Number of the first issue in the given duodecade. This sorts these files together rather than scattering them across the site directory.

## Navigational Improvements

You will not find any explicitly spelled-out URLs on our website any more. Instead, wherever a web page shows a nice thumbnail for some document (such as an

issue of the **Bulletin**), the thumbnail itself now acts as a link button to access the document, usually with an instructive caption such as “Click to view PDF.”

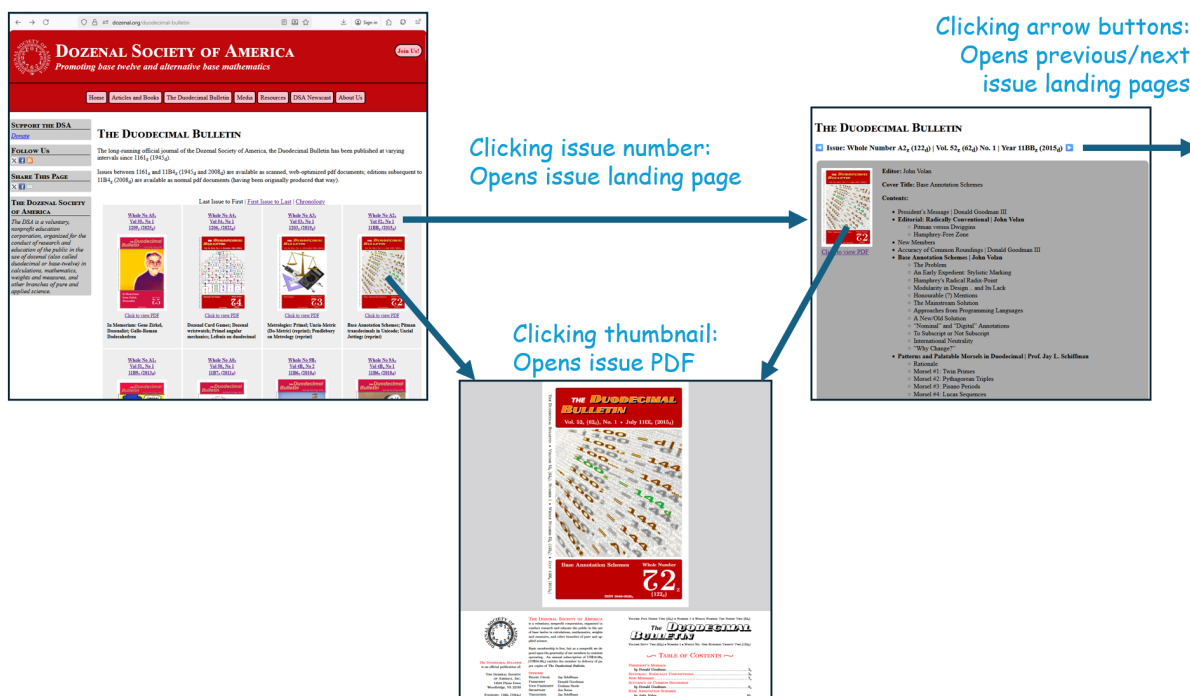
The **master page for the Bulletin** now defaults to show the most recent issues first. However, there is an **alternate page** that lists the earliest issues first.

The **master page for the DSA Newscast** similarly defaults to show the most recent issues first. A similar **alternate page** lists the earliest issues first.

The link above each issue thumbnail on the **Bulletin** master page heretofore was a cryptic combination of the numbers

associated with the issue. These have now been made more self-explanatory by spelling them out as the issue’s Whole Num., its Vol. & Num., and its year of publication. This link still navigates to the “landing” page associated with the issue.

(To see a full URL, just hover your mouse over the link or thumbnail; your browser should display it, usually in the lower-left corner of your window. To copy a full URL, you can usually right-click and select a “Copy Link” command.)



Individual landing pages for **Bulletin** issues now include a banner heading showing the issue’s Whole Number, its Volume and Issue number, and its Year of publication. These are usually shown in Rosetta-Stone-style dozenal-and-decimal.

This banner is now flanked by left and right arrow buttons linking directly to the landing pages for the previous and next issues. This allows you to easily step through the history of the **Bulletin** in either direction, without requiring you to return to the master page and hunt for your previous place.

Similar navigation arrows have been added to the **Chronology** pages, in that case linking to landing pages for groups

of a dozen issues (“duodecades” of issues).

Similar navigation arrows have been added to the **Newscast** issue landing pages.

As for **Articles and Books** and **Resources**, the items in those sections have been published on an ad-hoc basis, so there are no sequentially-ordered “issues” to organize. Instead, the entries in the master lists for these sections now duplicate the same information as the landing pages for individual items. Clicking on a title for an item opens its associated landing page. But note that on the landing page itself the same title is also a link, except in this case it is a link *back* to the anchor point for that item on the master list

page. So you can jump to a landing page, open its PDF, jump back to the same item in the master list, and then scroll down to another article, book, or resource.

The **Media** section currently contains only one video. Mike asked about moving that link into the **Articles and Books** section. But John suggested that we ought to be producing more videos, or linking to third-party videos on the web, and publish those in our **Media** section.

In the **Resources** section, John updated the entry for **UncialClockDeluxe**, giving it a more detailed description and better documenting its features.

John also published an entry for Paul Rapoport’s **Online Dozenal Clocks**. However, John’s write up for this was



rather thin, so he requested that Paul write a more robust description.

### Board Reactions

Mike observed that John's work to abstract and catalog the *Bulletin* and *News-cast* archives, as well as articles, resources, etc., required a lot of time and effort. Their reorganization into a clear navigational arrangement, consistently annotated, with regularized file naming conventions, represents a Herculean effort.

Mike noted that file names have been broadly made consistent and descriptive, deriving from first principles, rather than living with conflicting styles that had been imposed by multiple previous webmasters. The result is a clean presentation with minimal impact on site content previously available, and little change to its general aesthetic appearance.

Paul remarked that the website work John presented was "all of a piece." Paul went on to say that if the website were done "some other way, it was not going to be better."

## OTHER BUSINESS

### Dozenal Clock for iPhone

Paul described work he'd done to place Pitman numerals on an Apple iPhone in service of a dozenal clock. The clock features 3 dozenal digits on the lockscreen and homescreen (representing

diurnal time in tricia-days or "trices"). He had programmed it using Claude AI.

### Goodman Content

John pointed out that former President Don Goodman had published a book entitled "Basic Dozenal Arithmetic for Adult Students" in 1200<sub>z</sub> (2016<sub>d</sub>). This content was copyrighted and was published online at [Goretti Publications](#). Hard-copies are for sale there, but Don allows electronic copies to be freely downloaded. On the strength of that, John suggested we could add an entry for this book in our [Articles and Books](#) section, however we should ask Don for permission first. Mike agreed to reach out to Don in the next few days to follow up on this matter.

### Recalling Past Giants

Mike pointed out that the extended footer, accessible on every page of our site, along with features like the many "Rosetta Stones," all support the educational mission of the DSA, that had been championed for so many years by so many members of the Society over its history. None more so in our particular memories, than our late Emeritus member Gene Zirkel (a past DSA President), his wife Patricia Zirkel (a past *Bulletin* Editor), as well as Jay Schiffman (a former President and Editor).

The group assembled appreciated the dedication of Gene, Patricia, Jay, and the rest of the team that presided over the DSA roughly in the years 1191–1184<sub>z</sub> (1981–2008<sub>d</sub>). That team was responsible for reviving the rigorous publishing schedule of the *Bulletin* as well as for generally restoring the vitality of the DSA, after a period of decline and eclipse in the late 1180<sub>z</sub>'s (1970<sub>d</sub>'s).

This revival was aided by establishing the academic seat of the Society at Nassau Community College on Long Island. The influx of interest from the mathematics faculty at NCC energized the DSA and its Board of Directors for many years.

### Beard Award Plans

The group went into an aside regarding the Ralph Beard Award. There are several individuals who have merited the Award over the past several years, but given the disruptions after the Pandemic, we have been neglecting this. All present agreed that this year, 1207<sub>z</sub> (2026<sub>d</sub>) should see a series of Beard Awards granted to worthy individuals, perhaps back-dated to the years we have missed.

## CONCLUSION

We hope that these rational changes to the website will make it easier for visitors to navigate and find content meeting their interests, and will make it easier for future editors to maintain the site. ■■■

## NEW MEMBERS

ONE OF THE TASKS *Dozenal Jottings* will assume is to provide more timely updates about our membership rolls. This is also an opportunity to notify new members about their assigned member numbers. If you joined the DSA since our last such list in [Duodecimal Bulletin Whole Number 74<sub>z</sub> \(124<sub>d</sub>\)](#), look for your name below and note your member number. Regular members are shown in black; members with *Bulletin* subscriptions are shown in red. As you all can see, in the last four years, we've added more than two gross new members (including three dozen four new subscribers)! Now that *Dozenal Jottings* exists, we expect that such update lists will be more frequent and therefore shorter!

962<sub>z</sub> (1370<sub>d</sub>) Ayattem Kin  
963<sub>z</sub> (1371<sub>d</sub>) Bila Abera  
964<sub>z</sub> (1372<sub>d</sub>) Duncan Kerry  
965<sub>z</sub> (1373<sub>d</sub>) Jihoo Song  
966<sub>z</sub> (1374<sub>d</sub>) Valerie J. Camp  
967<sub>z</sub> (1375<sub>d</sub>) Matthew J. Yeaton  
968<sub>z</sub> (1376<sub>d</sub>) LeAnn S. Aakre  
969<sub>z</sub> (1377<sub>d</sub>) Peter Damien Reddy  
967<sub>z</sub> (1378<sub>d</sub>) Tom Rix  
968<sub>z</sub> (1379<sub>d</sub>) Christopher M. Hackwith  
970<sub>z</sub> (1380<sub>d</sub>) Rupert Falcon Kavanagh

971<sub>z</sub> (1381<sub>d</sub>) Sean McDeac Budds  
972<sub>z</sub> (1382<sub>d</sub>) Devin Hamrick  
973<sub>z</sub> (1383<sub>d</sub>) Julene Fletcher Elias  
974<sub>z</sub> (1384<sub>d</sub>) Nathanael A. Hansen  
975<sub>z</sub> (1385<sub>d</sub>) Joseph K. Shook  
976<sub>z</sub> (1386<sub>d</sub>) Jonathan Simons  
977<sub>z</sub> (1387<sub>d</sub>) Rishab Batra  
978<sub>z</sub> (1388<sub>d</sub>) Victor Kic  
979<sub>z</sub> (1389<sub>d</sub>) Gunbir Singh Baveja  
977<sub>z</sub> (1390<sub>d</sub>) Abdi Ghazinouri  
978<sub>z</sub> (1391<sub>d</sub>) David Donald Nuebel

980<sub>z</sub> (1392<sub>d</sub>) Chris Hennessey  
981<sub>z</sub> (1393<sub>d</sub>) Justin VonMoss  
982<sub>z</sub> (1394<sub>d</sub>) Brent Allen Mangum  
983<sub>z</sub> (1395<sub>d</sub>) Zachary Hebert  
984<sub>z</sub> (1396<sub>d</sub>) Beckett P. Lutton  
985<sub>z</sub> (1397<sub>d</sub>) Isaiah Julien Louineus  
986<sub>z</sub> (1398<sub>d</sub>) Alvar J. Garcia-Fernandez  
987<sub>z</sub> (1399<sub>d</sub>) Wolfe Jarod Padawer  
988<sub>z</sub> (1400<sub>d</sub>) Danielle Lee Desmarais  
989<sub>z</sub> (1401<sub>d</sub>) Dennis James Taber  
987<sub>z</sub> (1402<sub>d</sub>) Adam George Browse

98E<sub>z</sub> (1403<sub>d</sub>) Richard Shaffer  
 990<sub>z</sub> (1404<sub>d</sub>) Bryan P. Akers  
 991<sub>z</sub> (1405<sub>d</sub>) Makavarapu Bhavya  
 992<sub>z</sub> (1406<sub>d</sub>) **Elias C. Watson**  
 993<sub>z</sub> (1407<sub>d</sub>) Xeo Dart Caron  
 994<sub>z</sub> (1408<sub>d</sub>) Martin Schmidt  
 995<sub>z</sub> (1409<sub>d</sub>) **Charles Kobbe**  
 996<sub>z</sub> (1410<sub>d</sub>) **Philip Thomas Sitterding**  
 997<sub>z</sub> (1411<sub>d</sub>) Reid W. Smith  
 998<sub>z</sub> (1412<sub>d</sub>) Ashlye Loreet Gulley  
 999<sub>z</sub> (1413<sub>d</sub>) **Winston James Relfh**  
 99Z<sub>z</sub> (1414<sub>d</sub>) Rachel Jane  
 99E<sub>z</sub> (1415<sub>d</sub>) **Michael Camp**  
 9Z0<sub>z</sub> (1416<sub>d</sub>) Astro Boggiano  
 9Z1<sub>z</sub> (1417<sub>d</sub>) Cory Calhoun  
 9Z2<sub>z</sub> (1418<sub>d</sub>) Matthew Pierce Malloy  
 9Z3<sub>z</sub> (1419<sub>d</sub>) Henry S. Moursund  
 9Z4<sub>z</sub> (1420<sub>d</sub>) Lily May Baker  
 9Z5<sub>z</sub> (1421<sub>d</sub>) Christopher Peter Steiskal  
 9Z6<sub>z</sub> (1422<sub>d</sub>) Sandy Elizabeth Holly  
 9Z7<sub>z</sub> (1423<sub>d</sub>) Diana N. Vukel  
 9Z8<sub>z</sub> (1424<sub>d</sub>) Steven Dale Gibson  
 9Z9<sub>z</sub> (1425<sub>d</sub>) Julius Evans  
 9ZZ<sub>z</sub> (1426<sub>d</sub>) Trần Hữu Tùng Anh  
 9ZE<sub>z</sub> (1427<sub>d</sub>) Manuel Ulliac  
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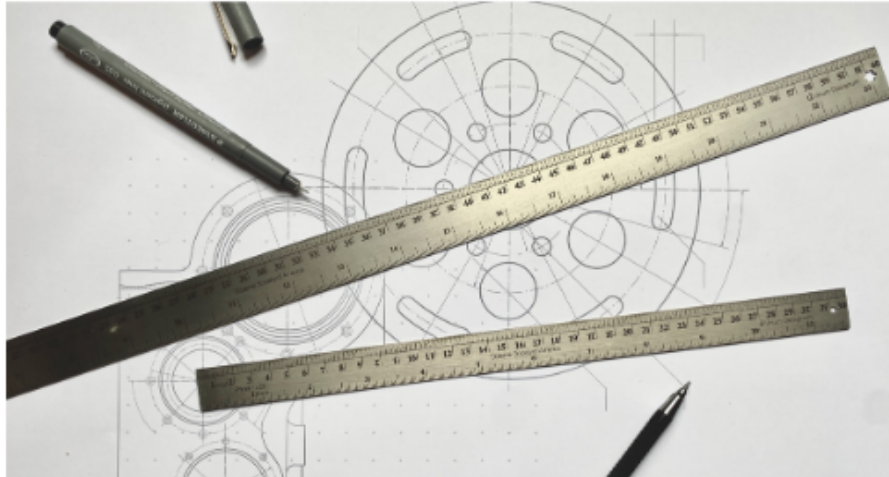
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## EACH ONE, TEACH ONE

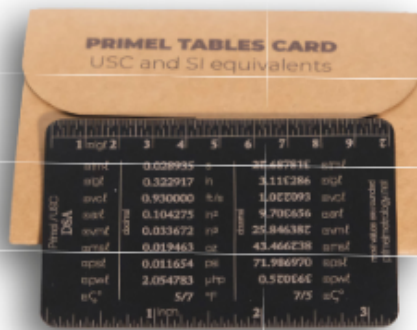
## PRECISION DOZENAL TOOLS

Available at [unumd.company.site](http://unumd.company.site)



### Primel Rulers

These double-sided rulers display Primel-Lengths on the top edge, divided into uncias, with a special design to highlight halves, thirds, quarters and sixths. The bottom edge shows Inches (USC) on one side, Centimeters (SI) on the other. Available in two sizes: three dozen and six dozen primel-lengths (almost exactly equivalent to one and two Grafuts from Tom Pendlebury's TGM system). Made to last: stainless steel, laser engraved, wooden case.



### Primel Tables Card

This double-side engraved card features conversions between Primel and USC units on one side, and between Primel and SI units on the other. Each side has conversions from Primel and to Primel. High-quality aluminum - Credit card format.



### Dozenal Tables Card

This double-sided engraved card features a dozenal multiplication table on one side and a dozenal addition table on the other. Carry your tables in your pocket and learn them at your own pace. High-quality aluminum - Credit card format.

## Your purchase supports the DSA!

*These high-quality products were designed in conjunction with the Dozenal Society of America. 20%(per gross) of Unum Designum's profits will be donated to support the DSA's dozenal outreach and educational work.*