



MATH DITTOS 2

Fact Controlled MULTIPLICATION

for Special Learners

Version 3.1

The **MATH DITTOS 2** series is a unique, fact supported approach to teaching computation. Each page in the series presents a limited number of problems with plenty of workspace. The facts necessary to complete each problem are always presented on the page in a fact reference and practice section.

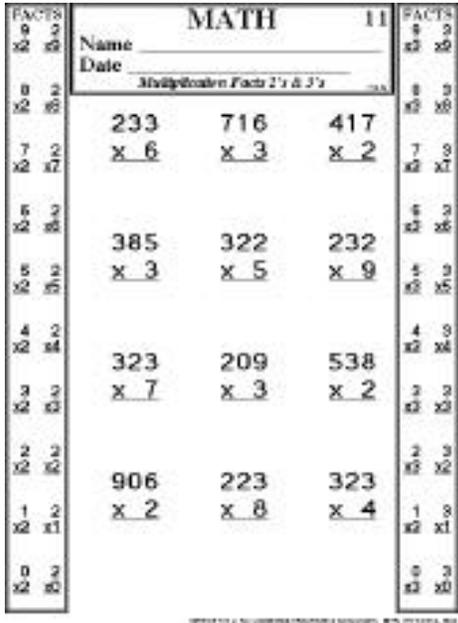
The **MD2** series currently consists of three "workbooks" published as computer documents in the Adobe PDF format, requiring only the free Adobe Acrobat Reader.

- **MATH DITTOS 2: Fact Controlled ADDITION & SUBTRACTION for Special Learners** teaches addition and subtraction simultaneously using a unique "cluster" approach.
- **MATH DITTOS 2: Fact Controlled MULTIPLICATION for Special Learners** presents multiplication in a careful, step-by-step, fact supported approach.
- **MATH DITTOS 2: Fact Controlled SUBTRACTION for Special Learners** can be effectively used for initial instruction in subtraction with fact support and word problems. It is quite effective for the reteach that older students beginning long division frequently need.
- **MATH DITTOS 2: Fact Controlled DIVISION for Special Learners**, is currently under development. The release date is not certain as yet, as the writing and testing are just underway.

The concept behind the MD2 series is the same one we've used for years in reading, using a controlled "vocabulary." The vocabulary in this context is the basic multiplication facts. Each page is limited to only the facts (much like new vocabulary) presented in the factbar or factstrip. The facts are presented, practiced, and applied to computation.

USE

MATH DITTOS 2: Fact Controlled MULTIPLICATION for Special Learners works well when used with, or as, a fact acquisition



program. Each page contains fact bars to be completed and checked first. They may then be effectively used for reference while completing the practice problems. Facts are presented from the 1's up to the 9's. Each series of pages presents only 2 sets of the facts (ie., 2's and 3's, or 7's and 8's), so that there is only one "new" set of facts and one review set per page. Review pages contain several sets of facts, including the 2 most recently taught fact sets. Inverse facts (ie., 2x6, 6x2) are included in the fact progression. Besides avoiding teaching each fact separately, this approach leaves fewer and fewer new

facts to be learned as the student progresses through the book and into increasingly difficult computation.

Preteaching each page is fairly easy. A quick examination of the page in question usually reveals what is new. Completion and checking of factbars should precede completing the practice problems.

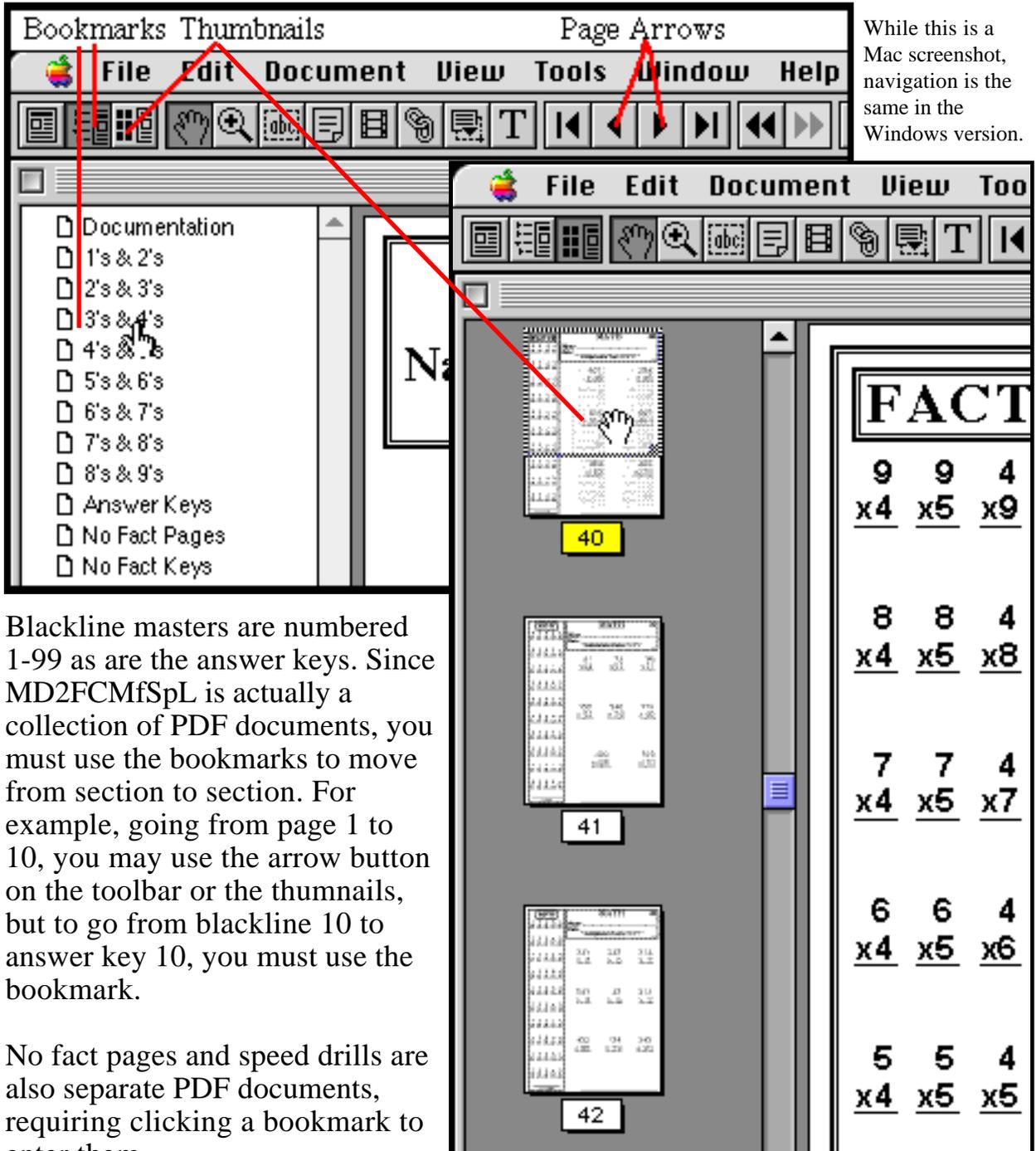
The pages are designed to be used sequentially, if appropriate, 1-99. Using just the one-digit pages (the first four pages of each set) is also an effective approach for students not yet ready for the complexities of 2 and 3-digit multipliers. More advanced students may not need to complete every page.

The pages in this series are purposely limited to very few problems per page. This was done so that students with ADHD could tolerate and complete a daily assignment. Many of my non-ADHD students zip through several pages a day.

FACTS	
<u>9</u> <u>3</u>	<u>3</u> <u>9</u>
<u>x3</u> <u>x9</u>	
<u>8</u> <u>3</u>	<u>3</u> <u>8</u>
<u>x3</u> <u>x8</u>	
<u>7</u> <u>3</u>	<u>3</u> <u>7</u>
<u>x3</u> <u>x7</u>	
<u>6</u> <u>3</u>	<u>3</u> <u>6</u>
<u>x3</u> <u>x6</u>	
<u>5</u> <u>3</u>	<u>3</u> <u>5</u>
<u>x3</u> <u>x5</u>	
<u>4</u> <u>3</u>	<u>3</u> <u>4</u>
<u>x3</u> <u>x4</u>	
<u>3</u> <u>3</u>	<u>3</u> <u>3</u>
<u>x3</u> <u>x3</u>	
<u>2</u> <u>3</u>	<u>3</u> <u>2</u>
<u>x3</u> <u>x2</u>	
<u>1</u> <u>3</u>	<u>3</u> <u>1</u>
<u>x3</u> <u>x1</u>	
<u>0</u> <u>3</u>	<u>3</u> <u>0</u>
<u>x3</u> <u>x0</u>	

Navigation

Navigate through the pages of MD2FCMfSpL with the forward and backward arrow keys, or with Thumbnails. General areas can be selected through the Bookmarks. Select the page view from the View menu.



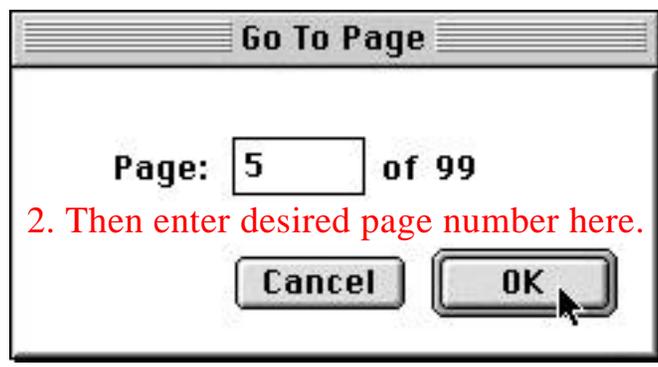
The screenshot shows the MD2FCMfSpL software interface. At the top, there are three tabs: "Bookmarks", "Thumbnails", and "Page Arrows". Below these is a menu bar with "File", "Edit", "Document", "View", "Tools", "Window", and "Help". A toolbar contains various icons, including a hand cursor, a magnifying glass, and navigation arrows. A sidebar on the left lists a "Table of Contents" with items like "Documentation", "1's & 2's", "2's & 3's", "3's & 4's", "4's & 5's", "5's & 6's", "6's & 7's", "7's & 8's", "8's & 9's", "Answer Keys", "No Fact Pages", and "No Fact Keys". The main window displays a math fact page with a "FACT" header and multiplication problems: 9×4 , 9×5 , 4×9 ; 8×4 , 8×5 , 4×8 ; 7×4 , 7×5 , 4×7 ; 6×4 , 6×5 , 4×6 ; and 5×4 , 5×5 , 4×5 . Three thumbnails are visible in the center, labeled "40", "41", and "42". Red arrows point from the "Page Arrows" tab to the navigation arrows in the toolbar, and from the "Thumbnails" tab to the thumbnails in the center.

While this is a Mac screenshot, navigation is the same in the Windows version.

Blackline masters are numbered 1-99 as are the answer keys. Since MD2FCMfSpL is actually a collection of PDF documents, you must use the bookmarks to move from section to section. For example, going from page 1 to 10, you may use the arrow button on the toolbar or the thumbnails, but to go from blackline 10 to answer key 10, you must use the bookmark.

No fact pages and speed drills are also separate PDF documents, requiring clicking a bookmark to enter them.

You can also navigate to a specific page by clicking on the bottom strip to bring up the "Go To Page" window and type in the page number you wish. This will not, however, allow you to switch between, for example, blacklines and answer keys. You must use the bookmarks for this switch.

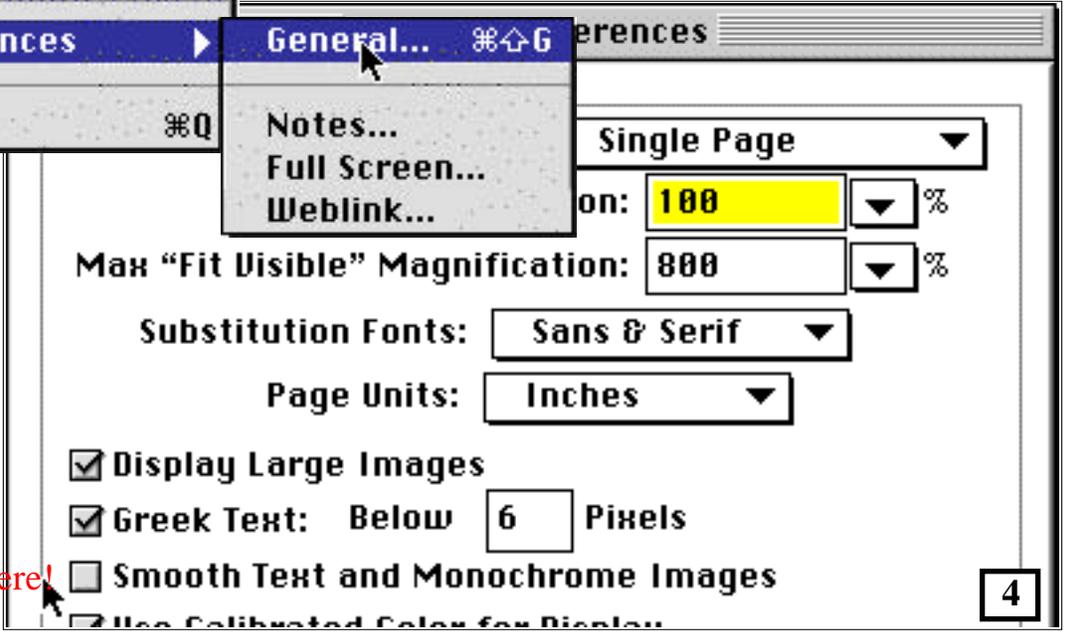


1. Click here first.

FUZZY IMAGES?



If the text and numbers of a page appear slightly blurred, clean your glasses and screen! Sorry, couldn't resist that one. The answer really lies in the "File" menu under "Preferences," and then "General." You will be presented with the window below. Uncheck the "Smooth Text and Monochrome Images" box. The screen clarity will improve without adversely effecting printing sharpness.



No check here!

What do you get?

Blackline Masters

- 99 blackline masters comprise the basic package. Worksheets move slowly and logically through the steps in multiplication. Each page adds only one new item to the task analysis. Facts are grouped in pairs for instruction, beginning with the 1's and 2's, then the 2's and 3's, the 3's and 4's, and so on. Each fact series is presented initially with one-digit multipliers. Inverse facts are presented on succeeding pages. Two and three-digit multipliers are presented after the first four pages of one-digit practice.

Compete Answer Sheets

FACTS **MATH** 16

Name _____
Date _____

Multiplication Facts 2's & 3's

9 3 9 2 x3 x2 x2 x2 27 27 18 18	8 3 8 2 x3 x2 x2 x2 24 24 16 16	7 3 7 2 x3 x2 x2 x2 21 21 14 14	6 3 6 2 x3 x2 x2 x2 18 18 12 12	5 3 5 2 x3 x2 x2 x2 15 15 10 10	4 3 4 2 x3 x2 x2 x2 12 12 8 8	3 3 3 2 x3 x2 x2 x2 9 9 6 6	2 3 2 2 x3 x2 x2 x2 6 6 4 4	1 3 1 2 x3 x2 x2 x2 3 3 2 2	0 3 0 2 x3 x2 x2 x2 0 0 0 0
158 x 3 474	904 x 2 1808	322 x 5 1610	158 x 20 3160	904 x 30 27120	322 x 40 12880	158 x23 3634	904 x 32 28928	322 x 45 14490	

- A set of 99 full-size answer sheets is included. A pet peeve of mine over nearly 30 years of teaching has been the absence of complete answer sheets for multiplication and division worksheets. If publishers would produce complete answer sheets, teachers could do what we've all been trained to do, diagnose and teach. Wherever possible, I have endeavored to incorporate complete answers into the MD2 series.

Students can easily check sub-answers to find where they made a mistake. The sub-answers also facilitate students understanding how to explode a two or three-digit problem into individual problems to be summed for the answer (see graphic at left).

Now in PDF Version 3.1!

The PDF version now includes most of the "extras" previously included only in the more expensive ClarisWorks version.

- "No Fact" pages: For each fact group, for example the 6's and 7's, there is a page of problems using only the 6's and 7's but no fact bar. A second page then tests cumulative facts to date, 1's through 7's. Fifteen "No Fact" pages are included.
- Speed Drill Worksheets: Twenty-one speed drill worksheets single facts, fact groups, and cumulative facts (ie. 4's, 3's & 4's, 2's-4's).
- Flash Cards: Templates are included for small student flash cards to be printed on 8 1/2 x 11 inch heavy stock. Facts include inverse facts (2x6, 6x2). The cards are sized so that all of one fact set fits on one sheet.
- Large Flashcards: A larger set of templates for printing cards for teacher, or if you're right or teach in an affluent school system, student use is included.

What's not in version 3.1?

The color worksheets included in releases before version 3.0 are gone for now. The sheer size of this release took all my time to edit. I'd love to add some color, even use it in the organizational scheme. But the time required simply doesn't exist.

What it's not!

The MD2 series does not currently have a "teachers' guide" filled with goals, objectives, and references to other materials and activities. While a desirable element, simply getting the product out has been the first goal for this revision. This book makes no attempt to link computational skills to real-life math. While a critical skill, these materials address that first step--computing. An attempt at a word problem approach has been employed in MATH DITTOS 2: Fact Controlled SUBTRACTION for Special Learners.

The MD2 series is not a replacement for a regular basal math series. It is designed to supplement or replace only the specific computational area of each "book." For my math students, I use MD2 where applicable, but return to the regular math series to give the child the whole math picture.

Printing Notes

I print to an Epson Stylus Color printer with no problems. I also use a LaserWriter Select 310 at school. Sometimes it is necessary to adjust the print darkness DOWN, or to a lighter setting.

- Answers are shown in red on the answer keys, but print well on black and white printers.
- Grids may not show unless color/grayscale is selected under Print Options on some black and white printers.
- Files are purposely offset to the right so that copies can be punched to be placed in a binder.

Some printing problems have occurred printing from Adobe Acrobat 3.0.1 to laserwriter printers. Using the Acrobat Reader application seems to correct these problems.

Why Adobe Acrobat?

The entire MATH DITTOS 2 series is now distributed only in Adobe's PDF (Portable Document Format). The change from ClarisWorks to PDF was precipitated primarily by the need to create cross-platform compatible documents.

- The MD2 series now requires only the free Adobe Acrobat Reader. Acrobat Reader is available for Macintosh, Windows 3.1, 95, NT, and other operating systems.
- Acrobat PDF documents offer greatly improved organization and navigation through their bookmarks and thumbnails.
- Acrobat seems to be a more stable format than the everchanging ClarisWorks (AppleWorks).

Editable versions in ClarisWorks 4.0 may continue to be available as time permits. At this writing, there are absolutely no plans, intent, or promise to continue support of the old ClarisWorks versions. Apple and Claris's constant file format changes and near-total lack of support of ClarisWorks developers make any further persuasion of that format impossible.

LEGAL STUFF

MATH DITTOS 2: Fact Controlled MULTIPLICATION for Special Learners is shareware. Shareware is material that can be tried, without charge, for up to 30 days. After that period, you are expected to either pay the shareware fee or delete the materials from your hard drive. **MATH DITTOS 2: Fact Controlled MULTIPLICATION for Special Learners** is protected by U.S. Copyright registration, ©1995-1998 Steven L. Wood. This PDF distribution version may be freely copied and distributed in its original form with all accompanying documentation. Registered users are granted the right to modify these materials for their own use only. Users may also generate paper copies for their own individual classroom use. Upon registration of your copy of **MATH DITTOS 2: Fact Controlled MULTIPLICATION for Special Learners** you are granted a license to install the above on one computer at work, and another at home. (I always thought Microsoft's licensing made sense.) Distribution to a whole staff, school, or system is prohibited. Site licenses are available.

REGISTRATION



Paying for **MD2** with the included Register application is fairly simple. Open the Register program (you may click on the icon at left) and enter your name, email address, mailing address, and the number of licenses you desire for each program you wish to purchase. If paying with Credit Card, you may email the information by copying the information from Register and pasting it into an email message to: sales@kagi.com. By U.S. Mail, simply save and print the data (your credit card numbers are bar coded for security) and mail to:

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Kagi promptly informs me of your payment and I mail the ClarisWorks version, or the PDF version password. I really attempt to get passwords out the same day they are received.

Pricing for **MD2** is as follows:

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1- 9 single user licenses, \$10 per user; 10+ licenses \$9 each;

Site License, \$125 covers all locations for your organization within a 100 mile radius of your site.

World-Wide License, \$350 covers all locations for your organization on the planet earth.

ClarisWorks Version:

1- 9 single user licenses, \$25 per user; 10+ licenses \$20 each;

Site License, \$250 covers all locations for your organization within a 100 mile radius of your site.

World-Wide License, \$400

NOTE:

Register is set to automatically scroll to the book from which it is launched. If you are registering other of my products, you will need to scroll to see them.

Register

Register To: Postal Address (optional):
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Scroll to other products

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IMPORTANT:

You have a choice in registering. If all you need is the PDF version, simply order that version for \$10.00. If you want or require the ClarisWorks editable version, order that version for \$25. (Includes PDF password also--you get both! I find the PDF much more convenient to use for everything but the spare parts folder items.)

Direct Sales: If you prefer, you may use the enclosed order form and send it to the address on it. Do not send it to Kagi!

Online registration will someday be available at my website:

<http://www.kagi.com/swood/>

Registration entitles you to free upgrades (ie., PDF registered users get new PDF versions free, ClarisWorks registered users get ClarisWorks updates and upgrades free). PDF registered users may upgrade to ClarisWorks versions by paying the current price difference.

Some personal observations

These materials were originally created using ClarisWorks on a Macintosh Performa 575. I now write, revise, and assemble the series on a Power Macintosh G3 minitower equipped with an Orange Micro PC card for work on the Windows side. Windows PDF versions are also tested on an Acer Aspire.



I continue to use ClarisWorks as the base application before conversion to Adobe PDF documents, along with a host of other applications...mostly shareware. I have decided not to upgrade to ClarisWorks 5.0 (even though I have 2 licensed copies of it), as the change in file format would require another revision of the series only to correct graphics problems caused by the Claris converters from version 4 to 5.

The Math Dittos 2 series was first created out of pure desperation. After years of teaching mostly regular ed, I took my school's LD job for a change-of-pace/new challenge. I had no money to purchase appropriate materials, few supplies, a hostile principal, and what my kids needed simply didn't exist on the market anyway. These pages are the result of that.

The series is designed to give fact support and to present just a few practice problems so the ADHD students won't be overwhelmed by the usual page of 25-30 itty-bitty problems with no work space. At times the series may be used with little initial instruction. It really wasn't designed as a programmed material or tutorial. It was designed to give achievable, meaningful practice/seatwork for students after direct instruction had taken place. The old truism of "Teach, Practice, and Apply" holds true here. I find when my kids performance falls off, I have often forgotten the "Teach" part and have gone directly to "Practice!"

Initially designed as a reteach or repair program for students who had an incomplete math experience (read that as "tried and failed"), the series has matured into a tool for both remedial and initial instruction for both special learners (aren't we all) and regular ed students. I have been amazed at the positive academic and attitudinal response of the kids.

This 4.0 release is the first complete set of FCM files in the PDF format. There are undoubtedly going to be a few bugs to be worked out. Please let me know if you find errors or have difficulty with the files.

Questions and comments can be emailed to me at:

swood@kagi.com This address is a permanent remailer address, so that if/when I change ISP's, it stays the same. My current direct email address is:
slwood@gte.net

The MD2 website is at:

<http://www.kagi.com/swood/>

The above address also links to my personal site where I have various odds and ends that may be of interest. It can also be directly accessed via:

<http://home1.gte.net/slwood/index.htm>

At this writing an update/upgrade page for registered users of the MATH DITTOS 2 series is at:

<http://home1.gte.net/slwood/upgrdpg.html>

All files posted to this site are password protected. Passwords will be supplied to registered users on request by email. The advantage to downloading again after registration is that these files only need a password to decompress, not every time you select a password protected area.

I am in the process of economizing on ISP's, web space, etc., so all upgrade files may not be posted at all times. If there's something you need and don't see at the upgrade site, let me know as I can email it to you.

As with most shareware authors, the response in terms of registrations is terribly disappointing. I continue to support the MD2 series as it is something I would be doing for my classroom anyway. There certainly is no net profit. There never has been, nor will there be. However, let me encourage you (and thank those of you who do) to register the sharewares you use--mine and others. In some of our private news and discussion groups, I see an increasing tide of frustration from authors of superb products who are seeing little or no return from their efforts.

Steve Wood

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