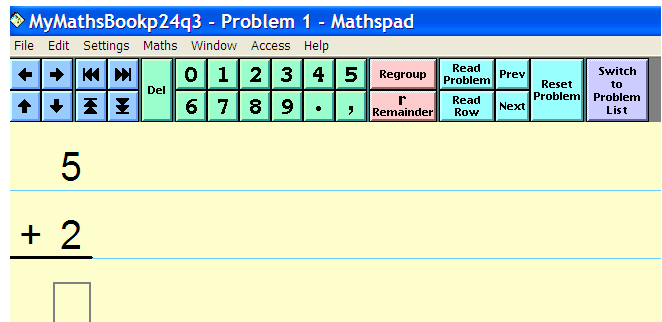


This program is ideal if all you are looking for is basic maths addition, subtraction, division and multiplication. The sums can be displayed in a number of formats to suit learners' individual needs, particularly those with a visual impairment. Toolbars can be removed; layouts altered with font, size and styles configured; access can be through an overlay, keyboard, mouse, joystick or switch.

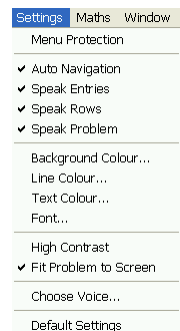


MENU BAR

Settings

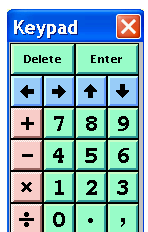
These can be configured as needed for individuals although unfortunately MathsPad only saves the current settings. If users with different needs are accessing the same machine the settings will need to be manually changed.

- Use with **Auto Navigation** so that it goes to the correct box after you enter numbers.
- Select **Speak** for
 - Entries - reads as data keyed in
 - Rows - reads line as cursor moved to that line
 - Problems - reads entire problem when it appears on screen
- The **colours** used can be altered to suit as can the **font, size and style**.
- Choose **Fit Problem to Screen** to ensure that the whole sum appears without needing to scroll.



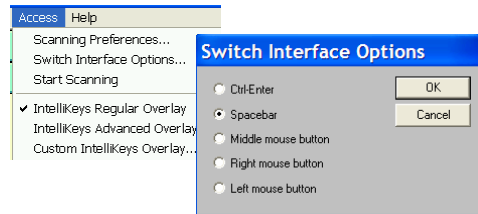
Window

- You can choose **Hide toolbar** as this reduces clutter and distraction on the screen and is not needed unless accessed by a mouse/ joystick user.
- The Keypad, although not in a particularly large font offers on-screen access to all the keys needed to complete tasks but not to move to the next problem. It can be helpful in reducing the amount of movement required to access basic keys.



Access

- Scanning preferences can be automatic or stepped. Both can be used from an Intellikeys board or with automatic scanning a choice can be made from keyboard or mouse keys.
- Using a switch interface
 - [Ctrl]+[Enter] advances the scan
 - [Ctrl]+[Down arrow] selects
- Auditory Scanning offers nothing, a beep or sound (group or item name)
- Scan highlights can be customised
 - The highlight box can be either solid or flashing
 - The speed can be adjusted
 - The colour of the highlight box can be selected
- Using a standard keyboard
 - Use the delete key to remove a number
 - Use the letter **b** to borrow and **c** to carry
 - Use the letter **r** to show a remainder.

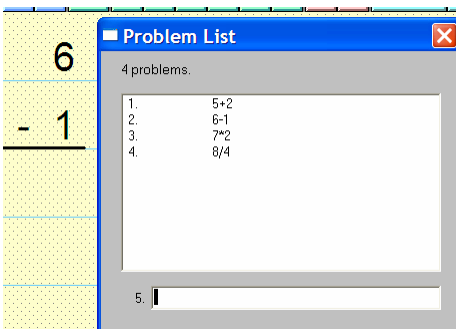


PROBLEM LISTS

There are a number of problems already created with the program but the power of the program is in the ability to quickly build up new problem lists. Sets of questions can be taken from the class Maths book and easily entered to make them accessible.

Create a new problem list

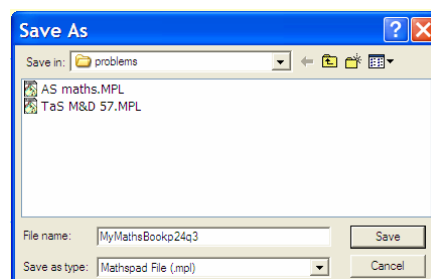
- Go to the **File** menu and **New Problem List**



- Initially there will be blank list.
- Key in each question in the format
 - 5+2
 - 6-1
 - 7*2
 - 8/4
- Press **enter** after each sum.

Save the problem list

- When completed go to **File** and **Save** and enter a suitable filename.
- This file (and any others) can be opened by going to **File** and **Open Problem List**



Add to an existing Problem List

Edit	Settings	Maths	Window	Ac
Undo				Ctrl+Z
Cut				Ctrl+X
Copy				Ctrl+C
Paste				Ctrl+V
Smaller Font				Ctrl+8
Larger Font				Ctrl+9
New Problem				Ctrl+A
Delete Problem				Ctrl+D
Move Problem Up				Alt+Up
Move Problem Down				Alt+Down

- Switch to **Problem List** from the **Windows** menu or toolbar
- Either press Control and A or select **New Problem** from the **Edit** menu
- Enter new problem
- Go to **File** and **Save** when you are finished adding to the list

Deleting a problem from a list

Edit	Settings	Maths	Window	Ac
Undo				Ctrl+Z
Cut				Ctrl+X
Copy				Ctrl+C
Paste				Ctrl+V
Smaller Font				Ctrl+8
Larger Font				Ctrl+9
New Problem				Ctrl+A
Delete Problem				Ctrl+D
Move Problem Up				Alt+Up
Move Problem Down				Alt+Down

- Switch to **Problem List** from the **Windows** menu or toolbar
- Select the problem to be removed
- Either press Control and D or select **Delete Problem** from the **Edit** menu
- Go to **File** and **Save**

Importing a list from a word processor

Create a file in your word processor and enter problems in the required format

- one problem per line
- press enter to start each new problem
- use + - / and * for the operators
- and save the file as a text file (extension .txt)
- go to Import in the File menu
- select the file and click on OK
- Now save the problem as a MathsPad file

USING MATHS PAD

Adding

$$\begin{array}{r} 45 \\ + 3 \\ \hline \square 48 \end{array}$$

When displaying a problem a highlight box will appear ready for the units to be entered but will only move onto the tens if there is Auto Navigation set. This can be confusing if, for example, the answer is stated as 48 but the 8 needs entered first then the 4. However, dealing with the units then subsequent places is the way that sums are taught.

$$\begin{array}{r} 1 \\ 45 \\ + 39 \\ \hline \square 84 \end{array}$$

- When carrying numbers over (e.g. with 45+39)
 - enter the digit going into the answer (4) then press regroup
 - enter the number you are carrying (1)
 - you will now automatically be in the tens digit box
 - you now have 1+4+3 so enter 8

Subtracting

Basic subtraction is the same as addition, enter the units then tens etc.

- However, when needing to borrow and carry numbers (e.g. with 45-39)
 - select regroup before you enter the digit (6) in the box
 - enter the number (3) that the next column will now be after the digit has been borrowed
 - the 4 in 45 will be scored out and now be a 3
 - the 5 will appear as ¹5
 - you will now be in the units box ready to enter 6

$$\begin{array}{r} \overset{3}{\cancel{4}} \overset{1}{5} \\ - 39 \\ \hline \square 6 \end{array}$$

Multiplying

This is a bit more complicated but follows the same rules as before.

- Using the same numbers (45*39)
 - enter the first digit (5) then click on regroup
 - a highlight (carry) box appears above 4
 - enter 4 into the carry box
 - $9*4=36+4=40$ so enter 0 then 4
 - now manually move to the tens box below the 0
 - $3*5=15$ so enter 5 then regroup
 - (you will notice that a + sign and rule is automatically inserted)
 - enter 1 into the carry box and the 4 will be replaced with a 1
 - $3*4=12+1=13$ so enter 3 then 1
 - now move manually to the units box below the rule and enter 5, 5, 7, 1 to complete the answer

$$\begin{array}{r} \overset{4}{4} 5 \\ \times 39 \\ \hline \square 405 \end{array}$$

$$\begin{array}{r} \overset{1}{\cancel{4}} \overset{1}{5} \\ \times 39 \\ \hline 405 \\ + 135 \\ \hline \square 1755 \end{array}$$

Dividing

This has the regroup feature, as used before, and introduces the remainder.

- Using the same figures (45/39)
 - enter the first digit (1) and the subtraction sign will appear with unit box ready for your answer
 - now enter 9 then 3 and move to units box
 - click on regroup and enter 3 in the box
 - 4 is crossed out and a 1 is entered above the 5 (¹5)
 - as all that is left is 6, press remainder and enter 6 there

$$\begin{array}{r} 1 \quad r \quad \square 6 \\ 39 \overline{) \overset{3}{\cancel{4}} \overset{1}{5}} \\ - 39 \\ \hline \end{array}$$

Decimal division

When doing division by decimal the point can be moved across to make it division by a whole number. When entering the sum into the problem list make sure that you have an additional 0 at the end of the sum.

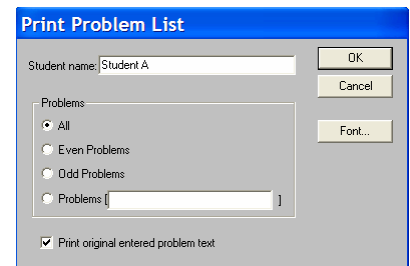
$$\begin{array}{r} \\ 3.9 \overline{)45} \end{array}$$

$$\begin{array}{r} \\ 39.0 \overline{)450} \end{array}$$

- With 45/3.9
 - Add a 0 to 3.9 - enter the problem as 45/3.90
 - Click on the 0 in 3.90 then on the decimal point on the toolbar/keypad and watch the point move to become 39.0
 - Click on box to the right of the dividend (45) and add a 0
 - Continue with the sum as usual

Checking pupil work

Go to the **File** menu and select **Print Preview** to get an outline of the problems and show markings. The name of the student can be added and font settings changed to suit. Selected problems can be viewed if required. If you wish to see the original sums as well as the worked solution then tick **Print original entered problem text**.



On viewing the problems

- A tick indicates a correct answer;
- a dash an incorrect one; and
- no mark indicates that the problem has not been tackled yet.

All workings are also shown.

Student A	
1. ✓ 5+2	2. ✓ 6-1
$\begin{array}{r} 5 \\ + 2 \\ \hline 7 \end{array}$	$\begin{array}{r} 6 \\ - 1 \\ \hline 5 \end{array}$
3. ✓ 7*2	4. ✓ 8/4
$\begin{array}{r} 7 \\ \times 2 \\ \hline 14 \end{array}$	$\begin{array}{r} 2 \\ 4 \overline{)8} \\ \hline - 8 \\ \hline \end{array}$

Editing pupil work

If on checking their work a pupil sees what mistakes they have made and wish to change their answer they can click on **Cancel** which will take them back to the problem list.

- Use the Previous or Next buttons to get to the sum they wish to amend
- Click on the number to change and enter the new one
- Once happy with the answer they can then go back to Print Preview and check
- If happy now then they can go ahead and print.

Printing worksheets

Either choose **Print** from the **File** menu or whilst in the **Print Preview** screen, select **Print**. The **Print Problem List** dialogue will appear again. Select which problems you wish to print (all, individual or a range). Click on **Ok** to get a print.