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### **Option 2 • Deleting a Problem**

The second option for Level 4 problems allows you to delete a problem that you have already entered. Select number 2 from the menu and the program will show you a list of the titles of the Level 4 problems on the disk. To the left of the titles will be the numbers 1-25. Press the Esc key to cancel the delete option, or enter the number of the problem to be deleted and press *Return (Enter)*.

The program will ask you if you are sure you want to delete the problem. Press N and Return to cancel the delete, or Y and *Return (Enter)* to delete the problem.

The program will then return you to the Level 4 List of Options.

### **Option 3 • Printing a Problem**

When you select Option 3, you will see a list of the problems that have been entered for Level 4. To the left of the titles will be the numbers 1-25. Press the Esc key to cancel the print option, or enter the number of the problem to be printed. The program will ask you if you are sure you want that problem printed. Press N and *Return (Enter)* to cancel the print, or Y and *Return (Enter)* to print it.

*(For Apple computers: The program will ask you to enter the slot number of the printer, then press Return; or, if it is in Slot 1, you can just press Return.)*

Only the text of the problem will be printed, not the solution or answer. After the print is complete, the program will return you to the Level 4 List of Options.

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**Weekly Reader Software  
from Optimum Resource, Inc.**  
10 Station Place  
Norfolk, CT 06058

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# ***MATH WORD PROBLEMS***

## ***User's Guide***

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from Optimum Resource, Inc.***

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## Math Word Problems

The ability to understand and solve math problems when they are presented in sentence form is crucial to a student's development. This program provides practice in deductive as well as arithmetic skills, using mathematics adapted to everyday situations. Hundreds of problems with thousands of possible number variables are stored on the disk. In addition, teachers and parents may add their own math word problems at any time.

The program adjusts automatically to meet the individual needs of the student. A level adjustment monitor, which the student never sees, constantly checks progress and adjusts accordingly. This allows each student to proceed at a comfortable pace, challenged but not frustrated.

Teachers and parents can further tailor the program to meet each student's needs. The Options section of this guide gives step-by-step directions on how to choose the level and type of problem.

The program keeps track of the names, levels reached, scores, and types of problems assigned for up to 40 students. Names may be added or dropped at any time. All instructions and answers are entered via the keyboard.

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A word problem is somewhat easier to read when it is typed in uppercase and lowercase letters. For those users with later model Apples, it might be helpful to make sure that the CAPS LOCK key is up when you enter the problem text. Apple II Plus owners can press the Control key while pressing the L key to toggle between uppercase and lowercase letters.

When you have finished entering the problem, press the Esc key. The problem will be saved in the computer's memory. If you decide that you don't want to use the problem, you will have to delete it. (See Option 2.)

The third step in creating a problem is to enter the answer. This must be a numerical answer that **DOES NOT EXCEED FOUR DIGITS**. The computer will not accept any more than four digits or any special characters, such as commas, dollar signs, or decimal points. Enter the answer, then press *Return (Enter)*.

The fourth step is to enter the solution for the problem. As you enter the solution, do not type in any spaces. The computer will accept only numbers, operation signs, and the equal sign in the solutions. It will place the spaces when it displays the solution to the student. For example, if the solution is:

$$14 * 3 = 42$$
$$42 - 12 = 30$$

*You enter 14\*3=42 Return (Enter)*  
*42-12=30 Return (Enter)*

You may use up to three lines for a solution, with no limits on the size of numbers, but the final answer can be only up to four digits.

If you try to put in more than three lines, the computer will flash the warning **EXCEEDING THE LIMIT**.

When you have completed entering the solution, press the Esc key.

The problem (title, text, answer, and solution) is now saved to the disk and you are returned to the List of Options for Level 4. You may store up to 25 problems in Level 4 at any one time. You may, of course, delete problems to make room for new ones.

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in Level 4. There is a limit of three operations per problem, but no limit to the types of problems presented.

This level is not affected by the problem modes selected in the Options section. Students beginning at Level 4 will be presented with all the problems which have been created at that level. When all the problems have been presented, the program will repeat any problems that have been answered incorrectly.

## Adding Your Own Problems

Press Control A (CTRL A) from the welcome panel to enter the Level 4 option section. This section enables you to add, delete, or print your own problems.

### Option 1 • Adding a New Problem

There are four steps to adding a new problem to Level 4. You will need to enter the title, problem text, answer, and solution.

First, you must enter a title for the problem. This is necessary to keep track of the number of problems and to be able to list, delete, and print them.

You may enter up to ten characters for the title. Press *Return* (*Enter*) when you have finished the title.

Next, you may begin to enter the problem text. The program will accept text in any convenient form. You may skip lines between sentences or write the numbers out in text form (one hundred instead of 100). This section works like any basic word processor. Type in the problem, leaving spaces between words. The program will automatically wrap the words onto the next line when it reaches the end of a line. To delete any text, use the left arrow key (<) or the Delete key. As you move the cursor back over any words, they will be erased. Type in the new text.

Text may not, however, exceed 11 screen lines. If you attempt to go beyond this, the computer will beep and flash a warning: **EXCEEDING THE LIMIT.**

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A calculator is built into the program for the student's use. It may be turned off by the teacher or parent.

## Getting Started

### Apple

*Math Word Problems* will run on any Apple, Apple II, Apple II Plus, Apple IIe, Apple IIc, Apple IIc+, Apple IIgs, or a Macintosh LC with an Apple IIe card installed. The 3.5" disks require 64K; 5.25" disks require 48K. Because the program saves student information back to the disk, the disk must not be write-protected. Please see your warranty/registration card for information on obtaining a backup copy of the program.

To start, put your program disk into the drive and turn on your Apple. If you have Autostart, you will see the title panel displayed.

If your Apple does not have Autostart ROM, you will see the monitor cursor (\*). Type **6**, then type **P** while holding down the Control key (**6 CTRL P**), then press Return. The title panel will be displayed.

### IBM

*Math Word Problems* will run on any IBM PC/XT/AT, PS/1 and PS/2 models, the Tandy 1000 family, and any other MS-DOS compatible computers with 256K bytes free and which support CGA or EGA graphics. Because the program saves student information back to the disk, the disk must not be write-protected. Please see your warranty/registration card for information on obtaining a backup copy of the program.

*Math Word Problems* can only be run from your A drive. To start, put the program disk into drive A and turn on your computer. If the computer is already running, you can warm start it by pressing the **CTRL**, **ALT**, and **DEL** keys at the same time. The title panel will be displayed.

*Math Word Problems* can also be run from DOS. Type **a:** and press Enter to go to your A drive. (The **A>** prompt will appear.) Then type **begin** and press the Enter key. The title page will appear.

**(RETURN - ENTER:** *Please remember that pressing the Enter key on an IBM is the same as pressing Return for Apples. When you see the Return (Enter) command in this manual, use the key appropriate to your computer.)*

After the title panel, you will see the welcome panel:

**Welcome to  
MATH WORD PROBLEMS**

**Press Return (Enter)  
when you are ready to  
begin.**

The welcome panel is the only position from which teachers and parents can enter the optional sections. The welcome panel offers four choices: Two of them allow teachers and parents to view and adjust the program, the third allows the teacher or parent to enter his or her own word problems, the fourth allows the child to play.

#### **Control C (CTRL C) Options**

Press Control while pressing C (CTRL C) to enter the Options section, described below.

#### **Control R (CTRL R) Report Card**

Press Control while pressing R (CTRL R) to enter the Report Card section, described below.

#### **Control A (CTRL A) Adding Your Own Problems**

Press Control while pressing A (CTRL A) to enter your own problems, as described below.

#### **Return (Enter)**

Press the *Return (Enter)* key while at the welcome screen to begin playing *Math Word Problems* without making any new changes to the type and level of problems to be presented. Any previous changes will, of course, remain intact.

problems will be a mixture of all the modes you have chosen.

#### **Level 3**

Level 3 consists of problems that require three operations to answer. These may be in any combination. You must select at least three problem modes from the Options section to begin at this level. For example:

**Problem:** *Jack wanted to earn 700 dollars in 4 weeks. He earned 118 dollars the first week. In the second week he earned 115 dollars. In the third week Jack earned 224 dollars. How many dollars must Jack earn in the fourth week to meet his goal?*

**Solution:**  $118 + 115 = 233$   
 $233 + 224 = 457$   
 $700 - 457 =$

**Answer:** 243

**Note:** *The solution requires that three operations be done to get the answer. Two of the operations are addition and one is subtraction.*

In Level 3, each solution will require that three steps be taken, as in this problem, to get the answer.

Level 3 problems can be generated, as in the above example, using only two problem modes; but a minimum of three are required for students to begin in this level. More than three problem modes (i.e., addition, subtraction, multiplication, division) allow for the greatest variety of problem type.

**IBM users:** *When all the problems from a level have been shown, the program will repeat any problems that were answered incorrectly. After the student has had a chance to answer these problems once more, the program will proceed to the next level.*

**Apple users:** *The program repeats incorrectly answered problems after problems in all levels through Level 3 have been shown.*

#### **Level 4**

This level contains all custom problems that have been entered by the teacher or parent. There is room on the disk for 25 problems

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reached in each session is displayed in the progress report. Check the Table of Levels as well as the Options to see which skills have been mastered so far and which should be emphasized in future options assignments.

If no options have been chosen, the program will begin at Level 1 with all the operations (addition, subtraction, multiplication, and division) selected and the calculator and printer available for use.

### Level 1

Level 1 consists of problems that require one operation to answer. The types of single-operation problems presented depends upon which problem modes have been selected. If, for example, multiplication is the only problem mode selected, word problems involving multiplication will be displayed.

**Problem:** *Bonnie can run 4 miles an hour. How many miles can she run in 3 hours?*

**Solution:**  $4 * 3 =$

**Answer:** 12

If multiple problem modes have been selected, the problems presented will be a mixture of the modes chosen.

### Level 2

Level 2 contains problems that require two operations to answer. Although the problem modes may be in any combination, you must select at least two modes in the Option section to begin at this level. For example:

**Problem:** *Sam earns 9 dollars an hour. He works 5 hours per day and spends 13 dollars a day. How many dollars will he save in a day?*

**Solution:**  $9 * 5 = 45$   
 $45 - 13 =$

**Answer:** 32

**Note:** *The solution requires two operations, multiplication and subtraction.*

You may, of course, select more than two problem modes. The

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## To Play

If you press *Return (Enter)* when the welcome panel is on the screen, you will be asked to enter a name (no more than 11 letters, please) and press *Return (Enter)*.

**Note:** *Students with the same first name should add a last initial so the program can tell them apart. A name should never begin with a space.*

If the name is not on the program's list of previous players, the problems will start at Level 1 with all options on and will progress upward as the student succeeds in solving problems.

If the name was entered earlier, the program will start at the last level reached and with the variations (if any) set in the Options section.

If you decide to skip the Options section, the program will automatically present a mix of all available types of problems.

*Math Word Problems* will now present a series of problems that the student may solve by typing in the correct numbers (see "Cursor Movement") and pressing *Return (Enter)*.

If the answer is wrong, the student will hear a "bloop," and the answer that was typed will be erased. The student may have one to five attempts at answering the problem correctly, depending on the option chosen; the default is two tries.

If the student still has not come up with the correct answer, the computer will highlight the numbers in the paragraph and print the solution at the bottom of the screen.

After studying the solution, the student can press R to repeat the highlighting sequence and see the solution printed on screen again or he can press any other key to continue to the next problem.

After every three correct answers, the program will display a strange fact or bit of trivia to relax the student's calculating mind for a moment as a reward for the correct answers. After reading

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the strange fact and trivia screen, the student can press any key to continue with the program.

### **Control Z (CTRL Z) End the Session**

When the student is ready, the session can be ended and the results saved to the disk by pressing the Control Key while pressing the Z key (CTRL Z). A report screen will appear with the current session's progress. *Note: Control Z can be used only when a new problem is on the screen before it has been answered.*

Pressing the Esc key will also end the session. Because the Esc key is easy to hit by accident, the program will ask you if you are sure you want to end the session. Press Y and Return (Enter) to end the session, or N and Return (Enter) to continue.

### **Control Q (CTRL Q) Quiet**

Press the Control key while pressing the Q key (CTRL Q) to turn off the sound for quiet play. Pressing CTRL Q again will restore the sound. Apple IIc users can simply turn down the adjustment knob located on the left side of the machine.

### **Control P (CTRL P) Print**

If a printer is available, it may be utilized by following these steps:

Press the Control key while pressing the P key (CTRL P) to print the problem you are working on. This must be done while the program is waiting for an answer.

*(For Apple computers: After you press CTRL P, the computer will ask you to enter the slot number the printer is in. Type in the number and press Return. If the printer is in Slot 1, you can just press Return.)*

Control P also allows you to print the new problems you are entering. See the section "Adding Your Own Problems" below.

### **Space Bar - Calculator**

Press the Space Bar to access the calculator. This must be done while a problem is on the screen, but before it has been answered.

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### **Report Card for: Janie**

<b>Starting level:</b>	<b>1</b>	The student's name appears here.
<b>Current level:</b>	<b>1</b>	Level at which problems began
		Level reached at last session. The current level will be the starting level for the next session.
<b>Problems attempted:</b>	<b>5</b>	The number of problems attempted.
<b>Answers correct:</b>	<b>5</b>	Correct answers within the number of tries allowed.
<b>Score:</b>	<b>100%</b>	Percentage of correct answers

*Note: This information, which describes only the preceding session's results, is updated each time the student works with the program.*

Option 2 allows you to delete records to make room on the disk. Enter the name you wish to delete when the list appears.

Option 3 allows you to review and change the options for any name on the list. Select the number of the student whose options you wish to revise. When the Options review screen appears, select the number of the option you wish to change.

### **Cursor Movement**

*Math Word Problems* presents the cursor at the leftmost position so that the problem may be answered naturally. For example, where the solution for a problem is  $9 + 6 =$  the student would enter the **1** first and then the **5** for the answer **15**.

The cursor may be moved from right to left to change the answer by using the left arrow key (<) or the Delete key. The cursor will erase any numbers it passes over, so you can enter a new answer, check it, then press Return (Enter).

### **Table of Levels**

This table illustrates the order in which the problem-difficulty levels are presented. Students do not see the levels, as the program adjusts itself automatically. You can use the table to select the starting place for a particular student or session. The highest level

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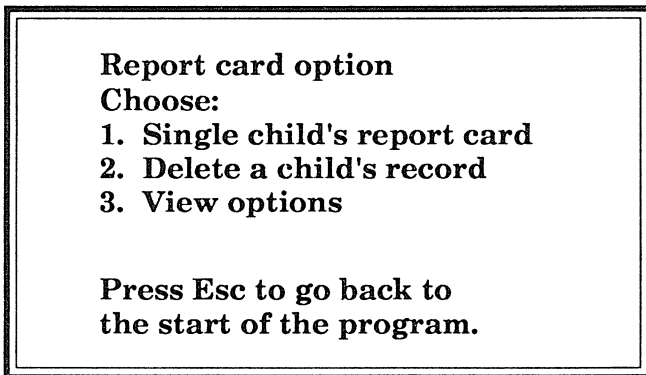
three problem modes to begin at Level 3.

If, for example, you select only addition problems and begin at Level 1, the program will give you problems that require that the student use only addition to solve them. The widest choice of problems occurs when more than one mode is selected. A greater variety of problems will be presented at the higher levels if, for example, addition, subtraction, and multiplication are selected rather than addition only.

## Report Card

Press Control while pressing R (CTRL R) while the welcome panel is on the screen to get the Report Card section. The Report Card enables you to track and store individual assignments and progress reports for up to 39 students.

(Position 40 is reserved for new and unlisted students.) You will see:

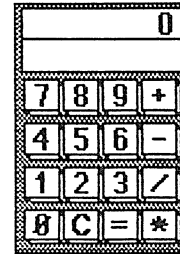


Press a number from 1 to 3 to select an option, or press Esc to return to the welcome screen.

Option 1 presents a list of the students whose names are stored on the disk and allows you to view the results of the last session for any student. Select the number of the student whose record you wish to review.

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When you press the Space Bar, a calculator will appear at the bottom right corner of the screen.



When you are in the calculator mode, the program acts just like a regular calculator. Simply input the numbers and the functions you want the calculator to process. Press the equal sign key (=) to get the answer.

Use the slash key (/) for the division function. The answer to the division problems will appear in two parts on the calculator: the top number will be the whole digit answer, and the bottom number will be the remainder. The remainder will be preceded by an R.

Use the asterisk key (\*) for the multiplication function. As with a hand-held calculator, pressing the letter C will wipe out any numbers or functions in the calculator's memory. When you have finished using the calculator for that problem, press the Space Bar again, or the Esc key to make the calculator disappear and to return to solving the problem.

## Options

Press Control C (CTRL C) while the welcome panel is on screen to enter the Options section. This section allows teachers and parents to determine the type and level of word problem to be presented to each student.

Teachers and parents can make individual assignments for up to 39 students, then store them on the disk (the 40th name is always reserved for any new student not on the list). You will see:

**You can customize the  
Math Word Problems  
for each student.**

**Press Return (Enter) to go on or  
Esc to go back to the start  
of the program.**

Press *Return (Enter)* to continue. You will be asked to enter the student's name.

Type the student's name (11 letters or fewer), then press *Return (Enter)*. The Options section will present you with eight choices. Press the appropriate number or answer, yes (Y) or no (N), to identify your response, then press *Return (Enter)*. You will be able to review and revise your selections after the eighth choice.

**The options:**

1. **Select the number of tries.** Enter a number from 1 to 5 to specify how many incorrect answers the program will accept before the computer displays the correct answer and the equation used to determine the correct answer.

The program default, which the program would select if you did not change the number, would be two tries. Younger students will feel comfortable with more tries. Set the option to 1 for more accomplished math wizards or for a quiz form that will record accurate per-problem scoring.

2. **Select the starting level of difficulty.** Enter a number from 1 to 4 to select the difficulty level at which the program will begin for this student. Remember, *Math Word Problems* will adjust itself as the student solves problems. See "Table of Levels" for a description of problems presented at each level and skills involved.

3. **Addition.** Type Y to include addition problems; type N to exclude them.

4. **Subtraction.** Type Y to include subtraction problems; type N to exclude them.

5. **Multiplication.** Type Y to include multiplication problems; type N to exclude them.

6. **Division.** Type Y to include division problems; type N to exclude them.

*Note: You must, of course, include at least one problem mode. Higher levels require that more than one mode be selected; see the "Table of Levels".*

7. **Calculator.** Type Y to allow the student to use the calculator when figuring out the answers to the problems; type N to turn off the calculator option.

8. **Printer.** Type Y to allow the student to print the problem or the report screen.

*(For Apple computers: The computer will ask you what slot the printer card is in. Type the number and press Return (Enter). If the card is in Slot 1, you can just press Return (Enter).)*

Type N to turn off the printer option.

When you have completed the eighth choice, you will be shown a review screen. Type the number of any option you wish to revise, or press *Return (Enter)* to accept the choices as made and return to the welcome panel.

You may press Control C (CTRL C) to customize the program for another child.

The options can be changed as often as desired to increase variety and maintain interest.

*Note: If you change any one of the problem modes by selecting the appropriate number, the program will cycle you through each of the problem modes, allowing you to change the selection if desired.*

You must select at least two problem modes to begin at Level 2, and