

MATHS INVADERS

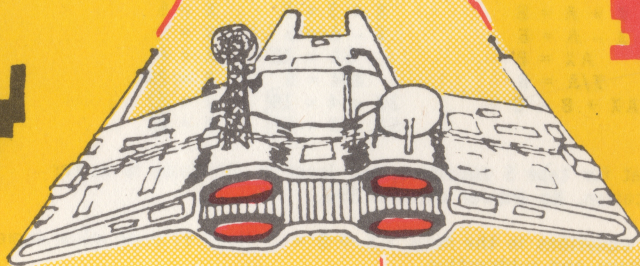
$46 \div 4$ 55×6 $\frac{3}{4}$ of 100

17×12 $105 - 35$ $17 + 59$

$\frac{1}{4}$ of 35 $36 + 55$ 8×5



ALGEBRATTACK



Computer Cognition

EQUATION INVASION

This game is one in which the invaders are EQUATIONS. The task is to type the value for X in each equation.

The first thing you are asked is the level of difficulty:

ADDITION AND SUBTRACTION

LEVEL	COMBINATIONS TO	COMMENTS
1	10	
2	20	
3	100	
4	120	-one addend less than 21
5	198	-both addends less than 100
6	999	

MULTIPLICATION AND DIVISION

LEVEL	MULTIPLICATION TO	COMMENTS
1	5 x 5	
2	5 x 10	
3	10 x 10	
4	12 x 12	
5	15 x 15	
6	100 x 100	-product less than 1000

After selecting a level, you will be asked to choose the type of equation. The following chart illustrates equation types, and gives sample answers.

	TYPE OF EQUATION	EXAMPLE	ANSWER
1	$X + A = B$	$X + 3 = 8$	$X = 5$
2	$X - A = B$	$X - 4 = 5$	$X = 9$
3	$AX = B$	$3X = 12$	$X = 4$
4	$X/A = B$	$X/4 = 5$	$X = 20$
5	$AX + B = C$	$3X + 4 = 19$ $5X - 3 = 27$	$X = 5$ $X = 6$

Note that for type 5 equations, the level of difficulty is as for multiplication. No answer exceeds 999.

Level 3 equations in the form $AX + B = C$ (type 5) does allow some carry in the addition and subtraction.

POWER MADNESS

This game is one in which the invaders are expressions which have a **number** raised to a power.

When a number is raised to a power, you are counting how many of **that** number are being multiplied.

Eg 2 to the power of 3 means $2 \times 2 \times 2 = 8$ (ie There are **three** two's in the multiplication).

2nd Power

When you square a number, you are multiplying the number by itself, and there are two numbers in the multiplication.

For instance 7 squared = $7 \times 7 = 49$. This is also called 7 to the power of 2.

3rd Power

When you cube a number, there are three numbers in the multiplication expression. For instance 4 cubed = $4 \times 4 \times 4 = 64$. This is also called 4 to the power of 3.

4th Power

With powers of 4, you multiply the number by itself an extra time, and there are four numbers in the multiplication expression. For instance 3 to the power of 4 = $3 \times 3 \times 3 \times 3 = 81$.

1st Powers

With powers of 1 you leave the number as it is. For instance 5 to the power of 1 = 5.

Numbers raised to Powers of ZERO

With powers of zero you replace the number with the number 1. For instance 5 to the power of zero = 1.

Although powers are usually written as superscripts (small numbers above the line), this is not possible on the computer, and they are written with an upward pointing arrow symbol (^).

eg. $2 \wedge 4 = 2 \times 2 \times 2 \times 2 = 16$

There are 3 levels of difficulty. Within these levels, the maximum power and the maximum base vary.:

LEVEL	MAXIMUM QUESTION					
1	$10 \wedge 0$	$10 \wedge 1$	$10 \wedge 2$			
2	$13 \wedge 0$	$13 \wedge 1$	$13 \wedge 2$	$13 \wedge 3$		
3	$16 \wedge 0$	$16 \wedge 1$	$16 \wedge 2$	$6 \wedge 3$	$3 \wedge 4$	

QUICK REFERENCE

LOADING.

Put the disk in the drive, label up, and turn on the computer. When the game has finished loading, replace the disk in its cover.

STARTING.

As soon as you see the flashing message on the bottom, you can hit S to start.

NAME.

Type your name and hit [RETURN], or hit [RETURN] with no name.

CHOOSING

Hit: P to change number of Players
A to change number of Armies

Hit a number to choose your game.
Hit any key to change your mind.

PLAYING

Type in your answer and hit [SPACE] or [RETURN] to fire.

KEYS.

← or → to move cannon.
[SPACE] or [RETURN] to fire answer.
[ESC] to change answer.
[CTRL]-O to turn sound off.
[CTRL]-S to turn sound on.
[CTRL]-F for fast advance.
[CTRL]-Q to quit game.

[CTRL]-R to review keys.

DEMONSTRATION

Type DEMO for name
OR Wait.

FOR

APPLE II or IIe

48k with DOS 3.3
OR COMPATIBLE
CAN BE BACKED UP

DISTRIBUTED BY COMPUTER COGNITION

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