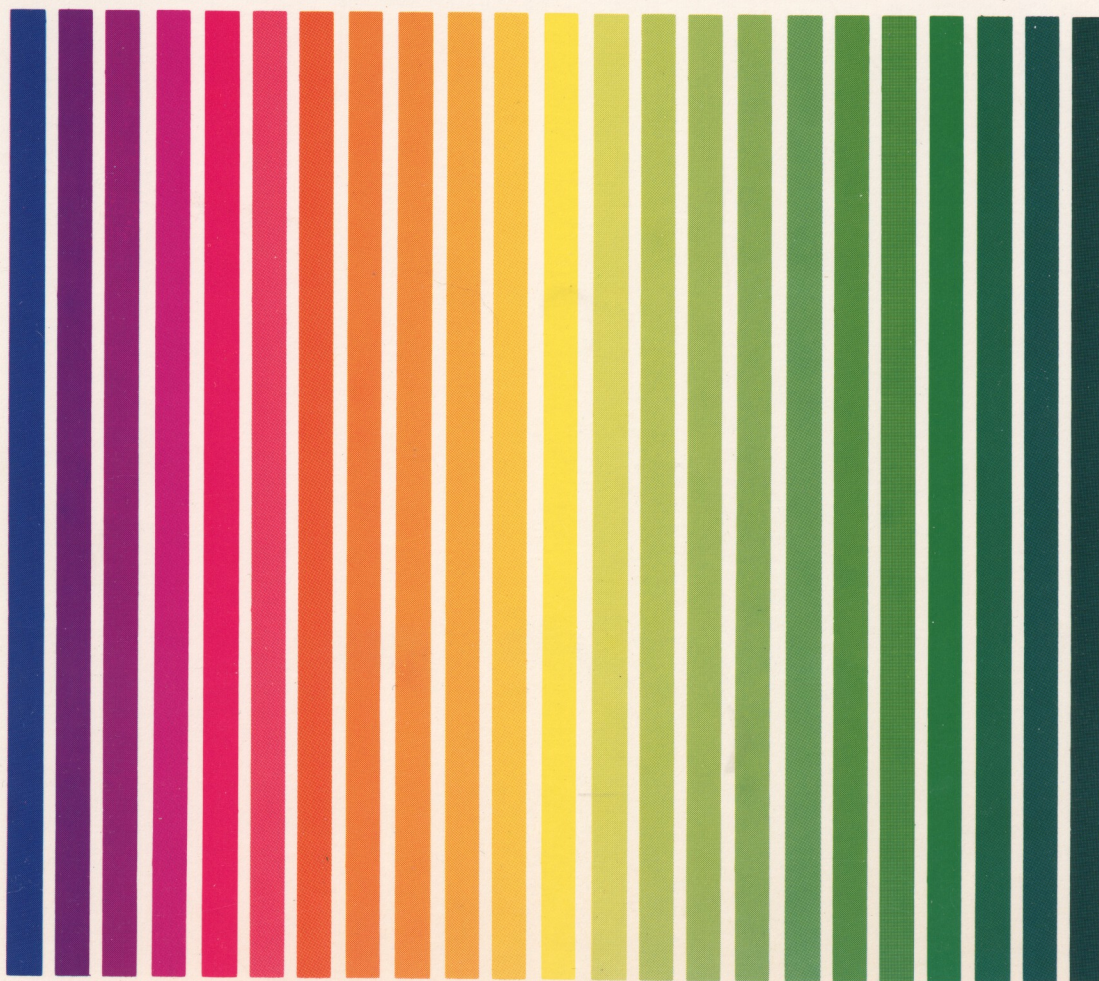


APX ATARI® PROGRAM EXCHANGE



Gregor Novak

MATH*UFO

An arcade-style arithmetic game for 1-2 players (ages 8-12)

Cassette: 24K (APX-10151)

Diskette: 32K (APX-20151)

User-Written Software for ATARI Home Computers

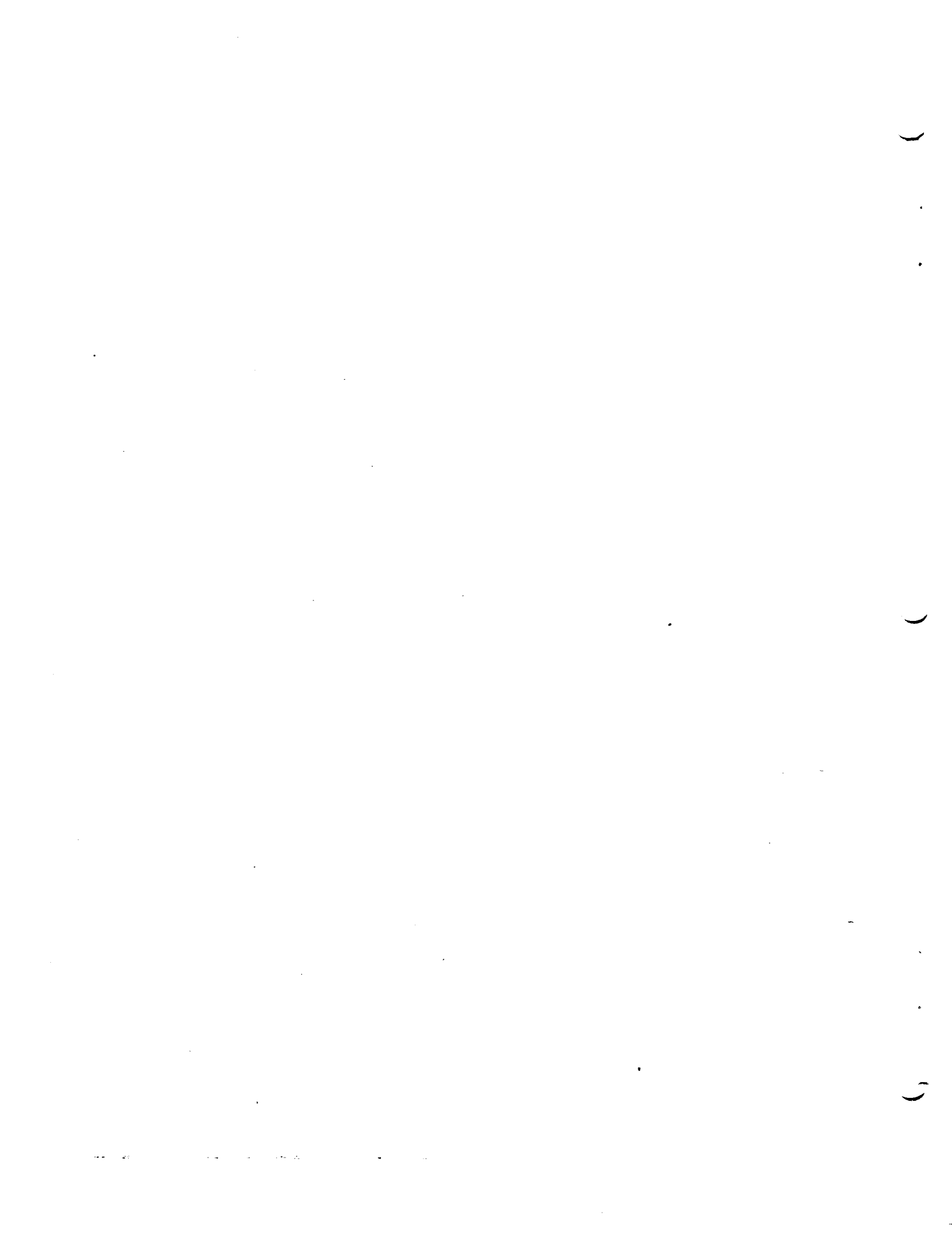
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MATH*UFO

by

Gregor Novak

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INTRODUCTION

OVERVIEW

A mysterious flashing spaceship floats to the top of the screen. Is it a martian? No, it's MATH UFO flashing you number drills! MATH UFO is a one- or two-player educational game that turns drills into a fast moving, arcade-style challenge.

As a spaceship containing a math problem floats up the center of the screen, the answer appears within each player's column of numbers along the side. Players use their joysticks to place their guns on the answer and then fire at the UFO as it passes by. A hit earns points. The high scorer after a set time wins the game. In the one-player version, a player races against the clock to improve his score and mathematical skills.

To accommodate players with different levels of coordination and mathematical proficiency, MATH UFO has options for varying the speed of the UFO and the gun movement and for selecting addition, multiplication, subtraction, or division problems. You may choose any number between one and nine or all numbers in that range. The game also has an option for displaying number facts in order or out of order.

REQUIRED ACCESSORIES

ATARI BASIC Language Cartridge
One ATARI Joystick Controller per player

Cassette version

24K RAM
ATARI 410 Program Recorder

Diskette version

32K RAM
ATARI 810 Disk Drive

CONTACTING THE AUTHOR

Users wishing to contact the author about MATH UFO may write to:

4733 N. Illinois Street
Indianapolis, Indiana 46208

or call him at:

(317) 923-1321

GETTING STARTED

LOADING MATH*UFO INTO COMPUTER MEMORY

1. Insert the ATARI BASIC Language Cartridge in the cartridge slot of your computer.
2. In the one-player game, plug your Joystick Controller into the first (leftmost) controller jack at the front of your computer console. In the two-player game, plug your Joystick Controllers into the first and second (the two leftmost) controller jacks at the front of your computer console.
3. If you have the cassette version of MATH*UFO:
 - a. Have your computer turned OFF.
 - b. Insert the MATH*UFO cassette into the program recorder's cassette holder and press REWIND on the recorder until the tape rewinds completely. Then press PLAY to prepare the program recorder for loading the program.
 - c. Type CLOAD and press the RETURN key twice.
 - d. After the program loads into computer memory, you'll see the READY prompt. Type RUN and press the RETURN key.

If you have the diskette version of MATH*UFO:

- a. Have your computer turned OFF.
- b. Turn on your disk drive.
- c. When the BUSY light goes out, open the disk drive door and insert the MATH*UFO diskette with the label in the lower right-hand corner nearest to you. (Use disk drive one if you have more than one drive.)
- d. Turn on your computer and your TV set. The program will load into computer memory and start automatically.

THE FIRST SCREEN DISPLAY

Following a brief title display the screen asks: HOW MANY PLAYERS? The words ONE, TWO blink alternately under the question.

SELECTING OPTIONS

To play the one-player version, press the red Joystick button when the word ONE flashes. To play the two-player version, press the first player's red Joystick button when the word TWO flashes.

At this point you're instructed to use the yellow console keys to choose one of the several types of games available in MATH UFO.

OPTION key - select the specific number featured in the mathematical problems (choices range from 2 to 9 or ALL). You can use the OPTION key any time during a the game.

SELECT key - choose an EASY game where number facts appear in sequential order, or a HARD game where number facts appear out of order. You can use the SELECT key any time during a game.

SPACE BAR - select the mathematical operation, either addition (+), subtraction (-), multiplication(*), or division (/). You can only use the SPACE BAR at the beginning of each game.

START key - adjust the speed of the game: SLOW, FAST, and PRO. With PRO, you have only once chance to answer a problem. The other speeds allow as many chances as necessary to answer correctly. You can use the START key any time during a game.

ATARI LOGO key - resets all the accumulated scores to zero and returns you to the "choose the number of players" screen.

SYSTEM RESET key - stops everything. To restart the cassette version, type RUN. To restart the diskette version, wait for the program to reload.

STARTING THE GAME - ONE-PLAYER VERSION

The playing field contains one "gun" and a vertical column of possible answers to problems. At the start of the game, a prompt in the middle of the screen instructs you to press the FIRE button when you're ready to begin.

STARTING THE GAME - TWO-PLAYER VERSION

The playing field contains two "guns" and a vertical column on each side of the screen of possible answers to problems. At the start of the game, a prompt in the middle of the screen instructs you to press the FIRE button when you're ready to begin.

PLAYING MATH*UFO

THE GAME SETUP

To start the game either player pushes the red Joystick Controller button. A spaceship appears at the bottom of the center of the screen, beeps and pauses briefly to allow the players a moment to see the mathematical problem in the window of the ship. It then floats upwards, flashing the problem. The ship disappears at the top of the screen and reappears randomly at the top or bottom displaying the same problem until one player responds correctly. If you're playing the game in the PRO speed, a new problem appears in the window of the spaceship every time it reappears on the screen.

FINDING THE SOLUTION

As soon as the spaceship appears, use your Joystick to move your gun up and down the column of possible answers. Hold your Joystick Controller with the red button at the upper left and the word TOP facing the television screen. Push the Joystick forward to move the gun up the column of numbers. Push the Joystick backward to move the gun down the column of numbers. When the gun reaches the top of the playing field, it jumps to the bottom and continues upward. Similarly, upon reaching bottom of the playing field, it jumps to the top. When you have the gun positioned over the correct answer and aimed at the space ship, fire by pressing the red Joystick button.

SCORING

Players earn points by exploding the spaceship when the answer to the problem is in the gun's window. In a SLOW and EASY game, a correct hit explodes the ship and the player earns 5 points. In a FAST game, a hit earns 10 points. In a PRO game a hit earns 25 points. MATH*UFO automatically doubles your score in the HARD games. A new problem appears in the spaceship after one player scores.

Each player's current score displays under the bottom border of the playing field. The highest score obtained since starting the game also displays in the top border of the screen. At the beginning of each game, each player's score is reset to zero. Press the ATARI key to reset the overall game score.

LENGTH OF GAME

At the beginning of each game an internal computer clock starts counting down. After each successful scoring, the MATH*UFO checks the elapsed time. If more than ninety seconds has passed, the game ends automatically. This scheme has several consequences: the lowest score in any game is 5 points; waiting or shooting at random wastes time and therefore lowers the ultimate score; the feeling of time pressure is reduced since the game never terminates in the middle of action.

NOTES AND SUGGESTIONS

Using games to help memorize facts is a time honored tradition in many cultures. Educational video games introduce electronic technology into this ancient tradition.

Any game demands of the player the mastery of an assortment of skills. The assumption underlying MATH*UFO is that children are quick with the Joystick Controller but need help with the number facts. Although this is true of many children, it is not true of all. There will obviously be math wizards with stiff wrists and there will be children who struggle with numbers and with the Joystick Controller. This game may help the math wizard with the stiff wrist develop that wrist. The game is most certain to add one more frustration to the child who has coordination problems and whose math is weak. A sensitive parent or teacher will not encourage such a child to compete in this kind of game.

SUGGESTED STRATEGIES

A beginner should start with single number problems, in EASY order at SLOW speed. As the memory improves the game should switch to HARD order, but still at slow speed. This strategy emphasizes the number recollection over the Joystick swiftness. In the HARD game the number facts are still in order; however, the list may start anywhere on the screen and wrap around. In a SLOW game the child can use this feature to locate an unknown fact by its relation to a known one.

When the facts are reasonably well mastered, increase the speed to FAST.

At any game speed the guns move faster than the ship. It is possible to position the gun at the top or bottom of the playing field, take a look at the problem, and catch up with the ship.

The PRO game is included for fun. The best strategy at the start or after a hit is to wait for the ship on the bottom line. If it happens to come with the first line problem it is virtually impossible to score unless the gun is already there. After missing a shot, the ship may return from top or bottom. Try waiting with the gun in the middle.

There is a certain element of chance in the HARD game but it is shared fairly by both players. The player whose display has the answer closer to the bottom of the field has an advantage for that run. The highest attainable score is also influenced by this feature. math wizard with the stiff wrist develop that wrist. The game is most certain to add one more frustration to the child who has coordination problems and whose math is weak. A sensitive parent or teacher will not encourage such a child to compete in this kind of game.

Suggested strategies

A beginner should start with single number problems, in EASY order at SLOW speed. As the memory improves the game should switch to HARD order, but still at slow speed. This strategy emphasizes the number recollection over the joystick swiftness. In the HARD game the multiples are still in order; however, the list may start anywhere on the screen and wrap around. In a SLOW game the child can use this feature to locate an unknown

multiple by its relation to a known one.

When the facts are reasonably well mastered the speed can increase to FAST.

At any game speed the guns move faster than the ship. It is possible to position the gun at the bottom of the playfield, take a look at the problem and catch up with the ship.

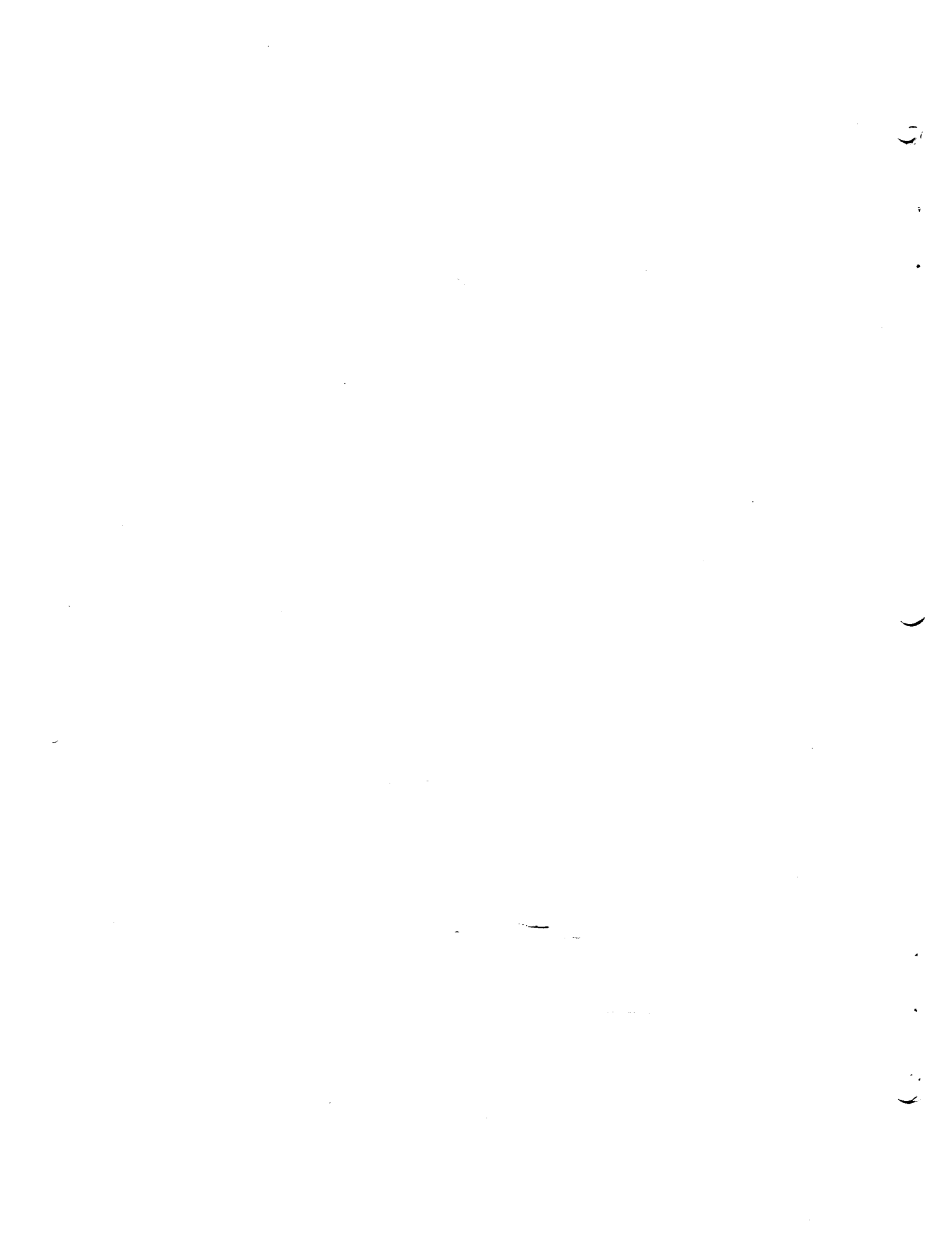
The PRO game is included for fun. The best strategy is to position the gun on the first playfield line. If the ship happens to come with the first line problem it is virtually impossible to score unless the gun is already there.

There is a certain element of chance in the HARD game but it is shared fairly by both players. The player whose display has the answer closer to the bottom of the field has an advantage for that run. The highest attainable score is also influenced by this feature.

Since the game terminates when a predetermined time has elapsed, higher scores are possible if answers are displayed closer to the bottom. The theoretically possible, but practically highly unlikely, score would be obtained by a player in a one player game at PRO speed whose answers were all on the bottom line and who got them all with the first shot. We'll let the math wizard with the stiff wrist calculate what that score is.

QUICK REFERENCE SHEET

JOYSTICK	Moves gun
RED JOYSTICK BUTTON	Starts game, fires shots
OPTION	Selects one number, or ALL
SELECT	Determines game difficulty; affects answer display
START	Controls game speed
ATARI KEY	Allows changing the number of players; resets all scores, including high score
SYSTEM RESET	Use in case of trouble with cassette; type RUN with diskette and WAIT for program to reload



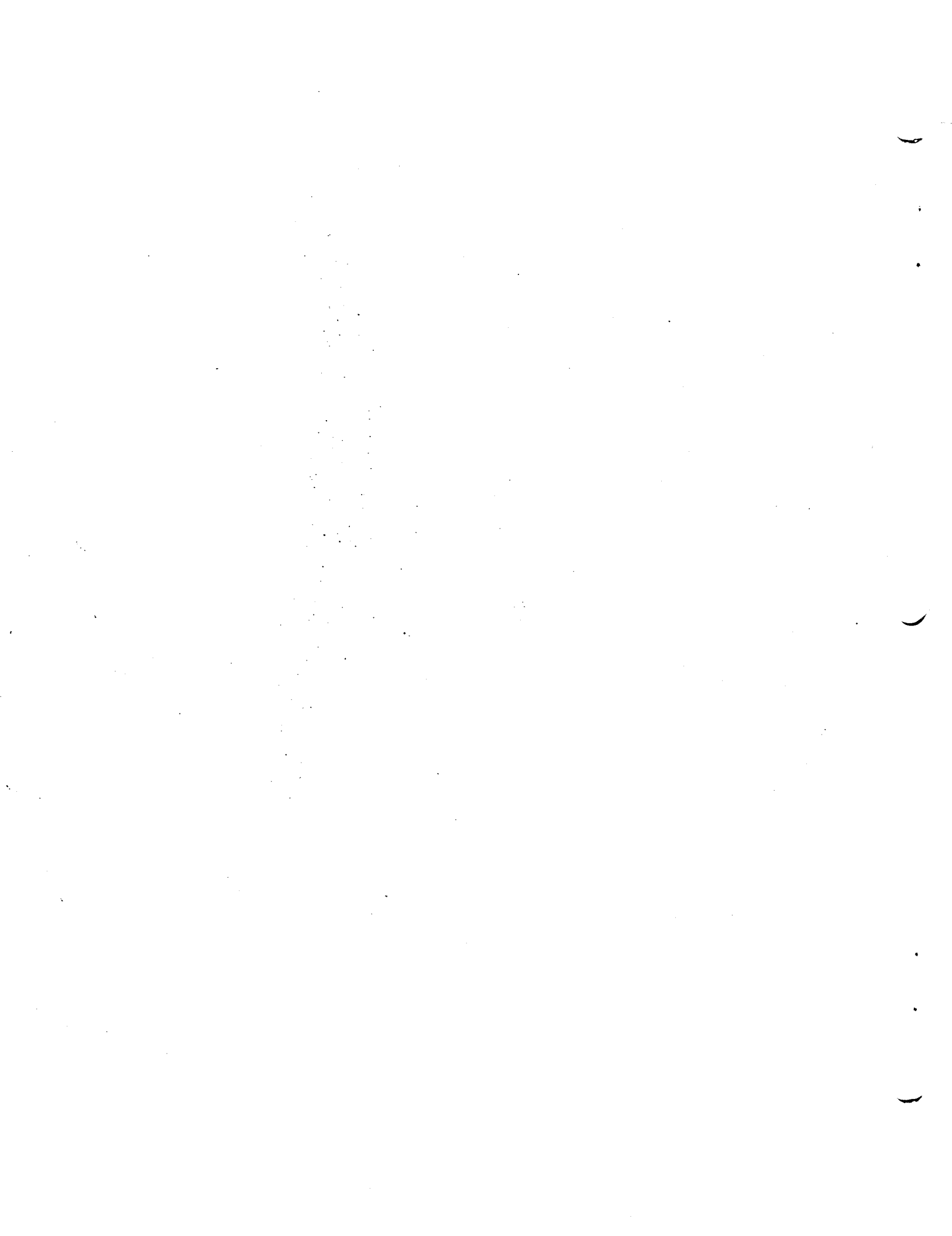
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ATARI PROGRAM EXCHANGE

REVIEW FORM

We're interested in your experiences with APX programs and documentation, both favorable and unfavorable. Many software authors are willing and eager to improve their programs if they know what users want. And, of course, we want to know about any bugs that slipped by us, so that the software author can fix them. We also want to know whether our documentation is meeting your needs. You are our best source for suggesting improvements! Please help us by taking a moment to fill in this review sheet. Fold the sheet in thirds and seal it so that the address on the bottom of the back becomes the envelope front. Thank you for helping us!

1. Name and APX number of program _____

2. If you have problems using the program, please describe them here.

3. What do you especially like about this program?

4. What do you think the program's weaknesses are?

5. How can the catalog description be more accurate and/or comprehensive?

6. On a scale of 1 to 10, 1 being "poor" and 10 being "excellent", please rate the following aspects of this program?

- _____ Easy to use
- _____ User-oriented (e.g., menus, prompts, clear language)
- _____ Enjoyable
- _____ Self-instructive
- _____ Useful (non-game software)
- _____ Imaginative graphics and sound

7. Describe any technical errors you found in the user instructions (please give page numbers).

8. What did you especially like about the user instructions?

9. What revisions or additions would improve these instructions?

10. On a scale of 1 to 10, 1 representing "poor" and 10 representing "excellent", how would you rate the user instructions and why?

11. Other comments about the software or user instructions:

STAMP

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[seal here]