# HEXAGONS

MANUFACTURED BY
## CLEMENT TOY CO.
NORTH WEARE, N.H.

## PROBLEMS

### For Hexagons and for the Nine-Hex Puzzle

| No. | Problems, for Hexagons. | |
|---|---|---|
| 1 | 162,403,798 | From these positions, |
| 2 | 186,209,437 | the first to play should |
| 3 | 289,306,741 | win. |
| 4 | 123,406,789 | This position presents one legal winning opening which is usually ruled out of contests, and also contains one gambit opening which **offers** the game to the second player. |

| No. | Problems for Nine-Hex Puzzle | In No. of Moves | |
|---|---|---|---|
| 51 | 823,406,719 | 3 | |
| 53 | 043,216,789 | 8 | |
| 33 | 843,206,719 | 11 | |
| 3 | 463,189,720 | 16 | |
| 4 | 193,406,278 | 17 | |
| 5 | 863,509,421 | 18 | |
| 504 | 143,265,790 | 18 | |
| 20 | 123,456,708 | 28 | (Moving only 8 pieces) |
| 7 | 193,508,462 | 31 | |
| 1 | 927,456,081 | 51 | |
| 503 | 759,302,164 | 67 | |
| 502 | 756,201,943 | 68 | |
| 8 | 807,654,321 | 84 | (Or less?) |
| 18 | 123,456,870 | 14 | |

(The NINE-HEX PUZZLE and HEXAGONS are fully protected by patent.)
(Rules of January, 1924; 6th edition.)

## === The ===
# "Nine-Hex Puzzle"
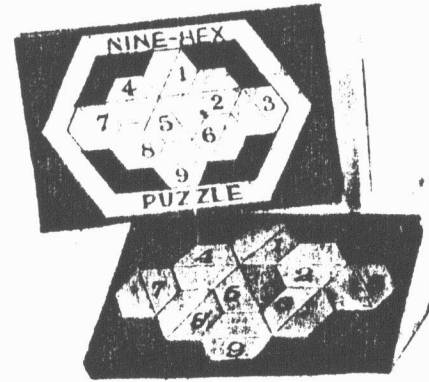


The game "HEXAGONS"

## Three Distinct Hits Played with Above Set!

1. Solitaire; solving the "NINE-HEX PUZZLE."

2. A party game; several Puzzles in competition.

3. The 2-player game; "HEXAGONS".

Take a set on your travels. Use for birthday gifts, favors, etc. Give something new and novel! These fascinating games are made in a variety of styles and sizes, but all sets embody exactly the same features. There are 3,265,920 combinations! Half are **easy** and half **hard** to solve. Buy it for **young** or **old**.

## THE NINE-HEX PUZZLE

If you wish to learn all there is to know about the fascinating NINE-HEX PUZZLE follow these carefully graduated instructions, and you will find each step easier than the one before. Learn each step, and you will find this the trickiest, most alluring Puzzle ever invented. You will play with it the rest of your life, and delight in springing problems on your friends. The name "NINE-HEX" means "NINE HEXAGONS," and refers to the six-sided figure that is formed by each pair of playing-pieces when they are placed with their longest sides touching. In these directions for play the pieces are called "half-hexagons", "blocks", "pieces" ("playing-pieces" and "corner-pieces"), "numbers" and "blanks", etc.

## THE POSITIONS

First test your powers of observation by fixing in mind exactly how the puzzle is put together, then turn the box upside-down so everything falls out and see if you can re-insert all pieces correctly the first time. Try this on very young children. It is really educational amusement. Notice that all numbers **must** face the same way, right-side-up and properly readable from the same side of the box. Each number has a blank block to pair with it, and in the correct position the numbers read from 1 to 9, in 3 rows of 3 numbers each, beginning with the top-center, and ending with the bottom-center blocks. You will see this order on the cover of the box, and in the picture above. It should be memorized at once.

The corner blocks, which are of smaller size and different color, should **never be moved** except in this first test. They serve only as space-fillers, and for children's use. Because the corners are confusing, a child must be exceptionally bright to assemble the whole puzzle correctly on the first trial. In some models the corners are not removable.

## THE MOVES

The play with the NINE-HEX PUZZLE consists in deliberately disarranging the hexagons, and then trying to rearrange them in their proper order by a sliding movement **only**, without lifting out any blocks except one pair. To leave space for moving, one complete hexagon is always omitted. That is, one number and one blank together are removed so as to leave one complete hexagonal space vacant. The disarranging, which is the setting-up of a problem, may be done by sliding or by lifting out the blocks from their normal positions, but the **rearranging**, which is the solving of the problem, **must** be accomplished with a **sliding** motion only. Blocks must **never** be lifted up or twisted around in solving problems. A "move" thus consists in sliding one half-hexagon from the position it occupies to an exactly similar position in another hexagonal space. For instance, if a block starts in the upper half of a space, like the 4-block, it must never rest anywhere except in the **upper half** of some space. Every piece, whether numbered or blank, **must** be kept always at the same angle that is shown for it in the correct position.

All positions may be expressed in figures. Thus, "123,456,789" designates the normal, correct position, and "103,456,782" would show that the 2-space was vacant, that the 2 was in the 9-space, and that the 9 was omitted. It would then be a problem to get the blocks back into the correct position by **sliding**, without twisting or lifting them up. Once in awhile a problem may be set up which leaves the pieces so wedged around the vacant space that no move is possible. In that case replace the first blocks removed and take out a different pair so as to allow a starting move.

## FUN WITH PROBLEMS

Now, as soon as you thoroughly understand how a move is made you are ready for some

fun with problems. Set up the puzzle in its proper order, remove one complete hexagon, and make just **2** moves to disarrange the pieces. Then return these pieces in exactly 2 moves. Next, take 4 moves, and rearrange in 4 moves. Then take 6 or 7, 10, 50, etc., moves, and find the limit of your memory beyond which you cannot replace the blocks in the **same** number of moves. Train your memory with this exercise! It is a wonderful developer of concentration and will help you fathom the mystery later. This step marks the usual limit of use of the NINE-HEX PUZZLE for young children. Two or more puzzles in competition develope quickness of decision, and furnish an exciting party game for young or old. Imagine a room full of people all working at once on a twenty-move problem given out by the hostess! (She might say, **"solve 843,206,719 in 16 moves,"** after a few minutes with 6-move and 8-move problems.)

### CLEVERNESS

Few people at first can follow and remember more than **6** or **8** moves! You may doubt this at first, but take a tip: You are safe in betting your friends 3 to 1 that right in front of their eyes you can mix up NINE-HEX in only **11** moves so badly that they cannot straighten it out in less than 13 moves within **15** minutes! For example; try to exchange positions of the 4 and the 2, and the 1 and 8 to set up (and then to solve) the problem "843,206,719" in 11 moves. If you can accomplish that yourself without reading further in these directions, you are a wizard. Here you have a test of your ingenuity!

Well, of course you had to read on? The NINE-HEX PUZZLE is most interesting to people of intelligence because it offers an unbounded field for their skill. The problem just given is **easily** solvable in **16** ordinary moves, and if moved from "123,406,789" to "843,206,719" and back again in 16 moves each way, it would

constitute only a simple exercise of memory as practised in the early stages. When you can shorten the solution to **11**, or even **13** moves, you have discovered the unique trick of this baffling puzzle. You should then test your analytical ability in devising shorter solutions to all your problems. It is not always certain that your first series of moves is the shortest possible.

### THE SECRET

If you want to discover the secret without further help do not read this paragraph. Here we give you a broad hint: **the rules do not specify that the blank halves should always follow their mates.** They have no identity to prevent their being permanently exchanged. And even if all pairs were numbered alike on both halves it would still be possible to separate the halves **temporarily,** and reunite them later, would it not? With this clue try to reduce this simple 16-move problem first to 13 and then to 11 "tricky" moves! Exchange the 8 and 1 in 3 moves! Exchange the 4 and 2 in 8 moves!

Are you satisfied now? Haven't you found the NINE-HEX PUZZLE the most ingenious scientific puzzle that ever came your way? Spring it on your friends! If you can't solve it now, GIVE it to them! Having the SECRET you have 3,265,920 possible combinations to work on. Exactly half of them are not solvable without juggling the half-hexagons apart from their mates. Don't tell this, but keep records of your best problems, and spring them on your friends. Wouldn't most of them bet they could **rearrange** a set-up of ten or a dozen moves that you disarrange right in front of their eyes? Set up a problem behind their backs and give them over night to get it! Then laugh, and show your hand.

The manufacturers of the NINE-HEX PUZZLE frequently conduct contests and will gladly pay for clever problems. Due to the already heavy

correspondence, however, ten cents must accompany your **first** inquiry, to warrant a full and careful reply. Correspondence will be welcome thereafter.

"**Hexagon Score Cards**" make it easy to keep track of puzzle problems, and of positions in the game of "HEXAGONS." Ask dealers and stationers for them.

## HEXAGONS

This game for two persons played with the NINE-HEX PUZZLE ranks with checkers and chess in cleverness and foresight required. A novel feature is that there are **two** ways of winning; by cornering the pieces, or by forming odd pairs.

**To prepare for play:** set up the pieces as if for solving the Puzzle, but note that the complete hexagon removed **must** be the number 5, and the vacant space at start **must** be the center space. Any arrangement of hexagons in the other spaces is permissible, even **the same arrangement as on cover**. When play is started from one position several times in succession players have the best opportunity to decide superiority, as in checkers and chess.

**Important rules:** players have alternate turns, as in most games, but in each **turn** may move either one or two **pieces** (which need not both be from same hexagon). When a player wants two moves he must say, "I move two," or words to that effect, **before touching** first piece. And after asking for two moves he must take them, or lose the game for failing to complete his turn.

No player may move any piece moved in his opponent's last turn.

Each hexagon normally consists of a numbered half and a blank half. To win the game a player must succeed in pairing the pieces so as to form a hexagon of two blank, or two numbered, halves; or he must succeed in cornering the pieces so his opponent cannot move. Cornering is easiest at the end spaces.

**Neither player** may make a move which ends the game, in his first turn, as this would be taking undue advantage of a too-favorable starting position. (Note that not even the **second** player may win in his first turn in any game.)

If by chance the first player's first turn leaves no legal move for the second player, it is void, and the game must be started again.

Players who wish to lengthen the game may play only to corner the opponent, and agree that pairing shall have no effect. Or the pairing may be allowed **as** a handicap to the poorer player only.

This game—HEXAGONS—is an ideal present-day diversion, easy to learn but hard to master. The option to move either 1 or 2 half-hexagons in each turn is important because it is the means by which a player maneuvers so as to move the **last** movable piece out of a blocked space, and thus leave his opponent "cornered".

## HEXAGON SCORE CARDS

Send someone a Puzzle and a Score Card and see how smart he is! The cards have many little diagrams exactly like the Puzzle and make it easy to follow problems step by step. Write lightly in pencil at first until sure of your moves. Problems and answers in NINE-HEX PUZZLE contests **must** be submitted on these Cards in ink, or on U. S. Post Cards diagrammed in the same form. The **vacant** space is marked on a fresh diagram after every one or two or three moves, and occasionally the numbers also are filled in to show how the hexagons lie.

The Score Cards make NINE-HEX and HEXAGONS very interesting for travelers and others who like to play in odd moments. Try these problems and then invent some of your own and send them in and get what they are worth (usually from 10c to $1.00 each).