

# Fano330-R-Morris

**Fano330-R-Morris** is a game for 2 players invented by **Masahiro Nakajima**, the Curator of The Museum of Abstract Strategy Games, in 2015. It is a ruthless game: On your turn, you can never win, but just lose!

“Fano” stands for the Fano Plane, a geometric plane with the minimum number of points and lines possible (specifically, it is the projective plane of order 2), which in this case is 7 points and 7 lines. “330” comes from the total value of the Japanese coins used as the playing pieces when the game was invented ( $2 \times \text{¥}100 + 2 \times \text{¥}50 + 2 \times \text{¥}10 + 2 \times \text{¥}5 = \text{¥}330$ ).

The game is categorized in the family of “Morris” games, represented by Nine-Men’s Morris, but be careful; the “R” stands for “reverse”: The winning condition of normal Morris games is the losing condition of this game!

## MATERIALS

- A Fano Plane board with 7 circled spaces on 7 lines (See the section "LINES").
- 2 white circle pieces
- 2 black circle pieces
- 2 white triangle pieces
- 2 black triangle pieces
- A Carrying case

## SETUP

Place the board in the middle of the playing surface. One player plays as white, and the other as black. Each player takes the 4 pieces (2 circles and 2 triangles) of her colour.

## HOW TO PLAY

The board starts empty. White plays first.

### 1) Placement Phase

Players take turns stacking **one** of their pieces on the circled spaces of the board, following The Stacking Rules below:

- A) Stack it on an empty space or...
- B) Stack it on another piece already on the board, applying The Stacking Rules as follow:
  - a. No more than 2 pieces can be stacked on the same space. A stack consists of one or two pieces.
  - b. Two pieces of identical shape **and** colour cannot be stacked.

### 2) Movement Phase

When the Placement Phase finishes, players take turns moving **one** of their pieces on the board, following the rules below:

- A) Move it to an adjacent space along a “line” (See the section "LINES"), following The Stacking Rules.
- B) When two pieces are stacked, only the upper piece can be moved.

## LINES

The “lines” are defined as the 7 lines that connect the following 3-space sets on the board:

$\{1,2,4\}$ ,  $\{5,2,3\}$ ,  $\{3,4,6\}$ ,  $\{6,1,5\}$ ,  $\{2,7,6\}$ ,  $\{4,7,5\}$ ,  $\{1,7,3\}$

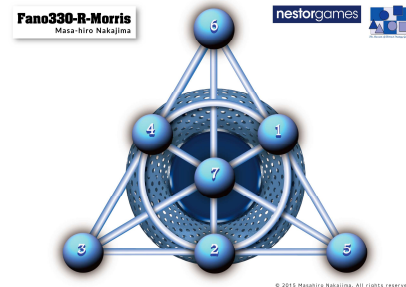


Fig.1 “Lines” include the circle  $\{1,2,4\}$

## GAME END

You lose if either of the following is true:

- a) 3 pieces of the same colour or same shape are in a “line” when **finishing** your turn. Only consider the topmost piece in each space. (Placement or Movement Phase)
- b) You have no legal moves when **starting** your turn. (Movement Phase)

Notice that the game might end during the Placement Phase.

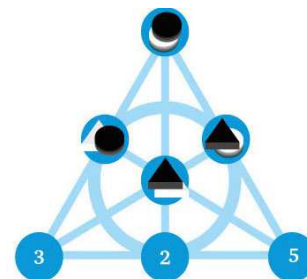


Fig.2 Game End Example 1 (start of White's turn): White loses because she has no legal moves.

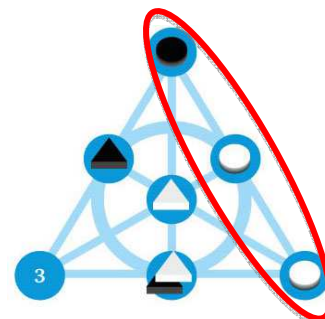


Fig.3 Game End Example 2 (end of White's turn): White loses because she has formed a straight line of 3 circle pieces

In case of repeated board positions, the game ends in a draw. Play again swapping colours.