Lesson 1: The Rules of Pentago

1.1 Learning the Rules

The Board

The Pentago game board is a 6x6 grid of places, each containing a detent or divot (a small round depression in the surface) that can hold a marble so it won’t roll out.

The 36 places are partitioned into four quadrants, each a 3x3 grid of places. Each of the four quadrants can rotate in place individually. In the physical version of the game, the mechanics of this rotation are quite elegant.
The Marbles

The playing pieces are 18 black marbles and 18 white marbles. Each player selects a color. At the beginning of the game, all the marbles are all held in reserve, off the board.

How to Make a Move

It’s easy to make a move in Pentago. Each move consists of two parts:

1. Place one of your marbles into one of the open places on the board.
2. Rotate one of the quads a single stop (a quarter turn, or 90 degrees), either to the left (counter-clockwise or anti-clockwise) or to the right (clockwise). You can rotate any of the four quads; you are not limited to rotating only the one where you placed your marble. A double-rotation (a half turn, or 180 degrees) is not permitted.

You must accomplish both parts of the move, the placement of the marble and the rotation, for the move to be complete.

You can make the two parts of the move (the marble placement and the rotation) in either order.

How to Win the Game

Describing how to win the game is simple: just get five marbles in a row horizontally, vertically, or diagonally. The hard part is that your opponent is also trying to get five in a row while preventing you from doing the same.

The players decide who will move first. Unlike in chess, either color can move first. The first-mover makes a first two-part move. The players then take turns moving until one of these three events occurs:

1. Someone wins by getting five-in-a-row, or
2. The players Tie or Draw (both players get five-in-a-row simultaneously), or
3. All the marbles are played without anyone winning (this is a Stalemate, which is also scored as a tie).
A player can declare victory by pointing out a five-in-a-row win at any point during the move, including before doing anything, after either placing the marble or rotating a quad, or after completing both parts of the move.

1.2. Test Your Skills with This Lesson

Quiz

Question 1:
The Pentago board consists of a grid of small detents or divots that can each hold a marble. This grid is organized into the shape of a:

A. Square
B. Rectangle
C. Pentagon (that’s why it’s called “Pentago”)
D. Rhombus (look it up)

Question 2:
The array of places on the board has which dimensions?

A. 8 x 8 (just like on a chess board)
B. 7 x 7 (that’s why it’s called “Pentago”)
C. 6 x 6
D. 9 x 9 (just like a small version of a “Go” board, from which it was derived)
E. 5 x 5 (that’s why it’s called “Pentago”)

Question 3:
When making your move, what is the correct order of these operations?

1. Removing one of your opponent’s marbles
2. Placing your marble
3. Rotating one of the quads a quarter-turn
4. Possibly removing one of your opponent’s marbles only by capturing it by
surrounding it on all sides with your marbles

A. 1,2,3,4  
B. 1,2,3  
C. 4,1,2  
D. 2,3  
E. 3,2

**Question 4:**  
Which player moves first in a Pentago game?  
A. Black, just like in chess  
B. White, just like in chess  
C. Black, just like in Go  
D. The players decide which color moves first  
E. The players flip a marble to decide who goes first

**Question 5:**  
At what point can a player declare a winning position of five marbles in a row?  
1. Before he places a marble or rotates a quad  
2. After placing a marble  
3. After rotating a quad a quarter turn  
4. After both placing a marble and rotating a quad  
5. Only during his own move
6. Only during his opponent’s move

A. 6
B. 1,2,3,4,5
C. 1,5
D. 4,5

1.3. Answers to Lesson Quiz

Answer to Question 1:
A. Square. The name Pentago comes from the idea that five marbles in a row are needed to win. A square is technically also a rectangle and a rhombus, but let’s not go there.

Answer to Question 2:
C. 6 x 6. The Pentago board is a 6x6 array of detents for marbles. Choice B doesn’t make any sense. In choice D, Pentago was not derived from “Go”.

Answer to Question 3:
D. and E. You must place a marble and rotate a quad by a quarter-turn and you can do these two steps in either order. Pentago doesn’t offer the possibility of capturing or removing your opponent’s marbles.

Answer to Question 4:
D. The players decide which color moves first. Choice B is just wrong. Choice E doesn’t make sense.
Answer to Question 5:

B. 1,2,3,4,5. You can declare victory by pointing out your five marbles in a row at any time during your move, including before or after you place a marble or rotate a quad.