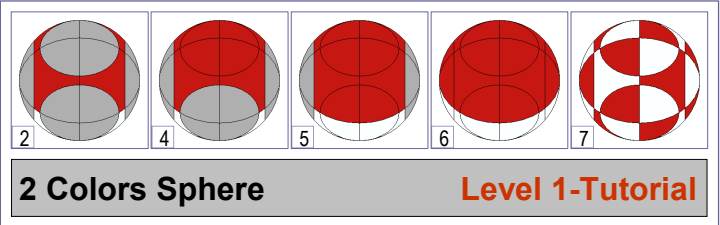


MARUSENKO SPHERE DESCRIPTION

A 3D rotational and sequential spheric puzzle, *Designed, Engineered and Manufactured* with **100% European Quality**. During the assembling process, no glue nor any metallic element such as springs, screws or washers are used. Actually, all of its 54 pieces are built with high quality and 100 % recyclable plastic. New, original, quiet and well defined movements, with the guarantee of a longwearing product. Surface of the Marusenko sphere has 24 triangles (arranged in 6 poles) and 8 stars (leaving a total of **32 moving pieces**). Its 2,279,626,699,712,199,018,518,937,600,000 positions (around 2.3×10^{30}) and all of its potential color configuration led us to present the sphere in 5 different designs, offering different levels of creativity and complexity. We hope that this challenge will be to your liking and we sincerely appreciate your purchase.



Standard Method Summary:

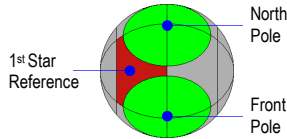
We solve the sphere from north to south through the following steps:

- 1.-Orient the sphere: North Pole (the active pole) and Front Pole (the auxiliary pole)
- 2.-Solve the 8 stars: 4 red-stars in the Northern Hemisphere and 4 red-stars in the South.
- 3.-Learn how to bring a triangle to the Front Pole (this is an auxiliary step).
- 4.-Solve the North Pole: Join 4 red-triangles in the North Pole.
- 5.-Solve the Front Pole: 2 red-triangles on top half and 2 white-triangles on bottom half.
- 6.-Solve Side Poles (Right, Back and Left): repeat Step #5.
- 7.-From the "red and white hemispheres" solution we get the "checkered" or "harlequin" one

The 2 coloured sphere represents level 1 among the 5 difficulty levels that Marusenko offers to the market. To get the "checkered" or "harlequin" solution, this tutorial follows a step-by-step method. This method is not unique nor fastest, it is a standard technique in order to solve the sphere from any of the $78.893.304 (7,9 \times 10^7)$ possible positions and without shortcuts nor tricks that could lead us to a quicker resolution method. In this example we'll, "Red & White" sphere will be solved; getting the "half-red and half-white" position firstly. We will proceed to obtain the "checkered" or "harlequin" solution at the next step.
Please keep in mind that this is an easy step-by-step solution approach, so you will find shortcuts and tricks that will lead you to your own resolution method, to solve the sphere faster and with a smart procedure.

STEP #1 Orient the sphere

We choose and select any "red star" as the "front-upper-left star", orient and hold the sphere leaving the selected star in this desired position. In this way, "north pole" and "front pole" (both shown in green) are determined so as to start.



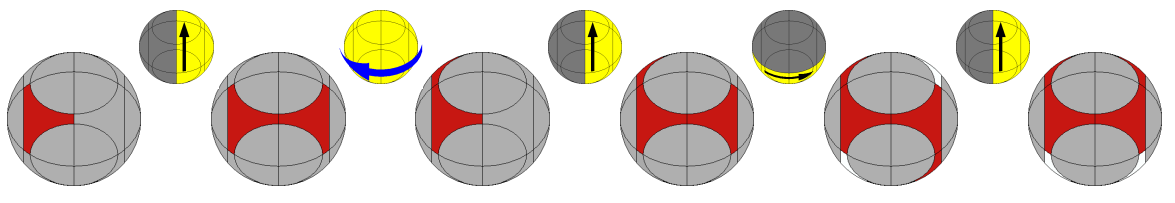
Movements: Half Right, Equatorial, or Polar movements mean 90° , 180° or 270° twists

Re-orientation of the sphere

NOTE: "clear grey coloured pieces" mean that during that step these pieces could be from any colour.

STEP #2 Solve the 8 Stars.

Join 4 red-stars in the North Pole. The remaining 4 white-stars will be automatically located in the South Pole.
Notice!: clear grey triangles and stars represent any type of color at this stage.

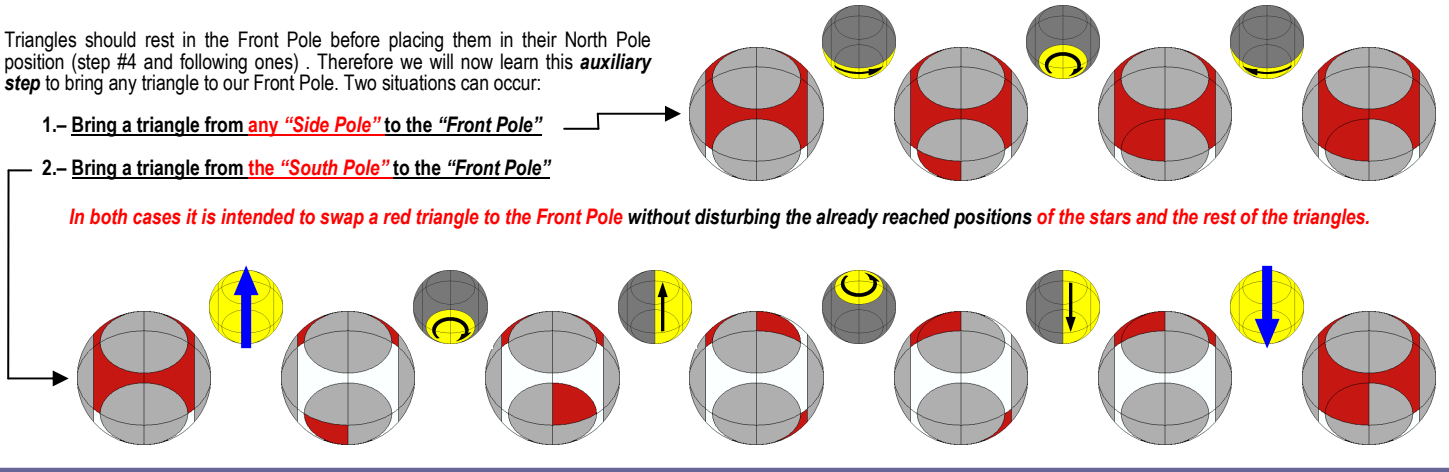


STEP #3: (auxiliary step) Learning to bring a red triangle to the Front Pole

Triangles should rest in the Front Pole before placing them in their North Pole position (step #4 and following ones). Therefore we will now learn this *auxiliary step* to bring any triangle to our Front Pole. Two situations can occur:

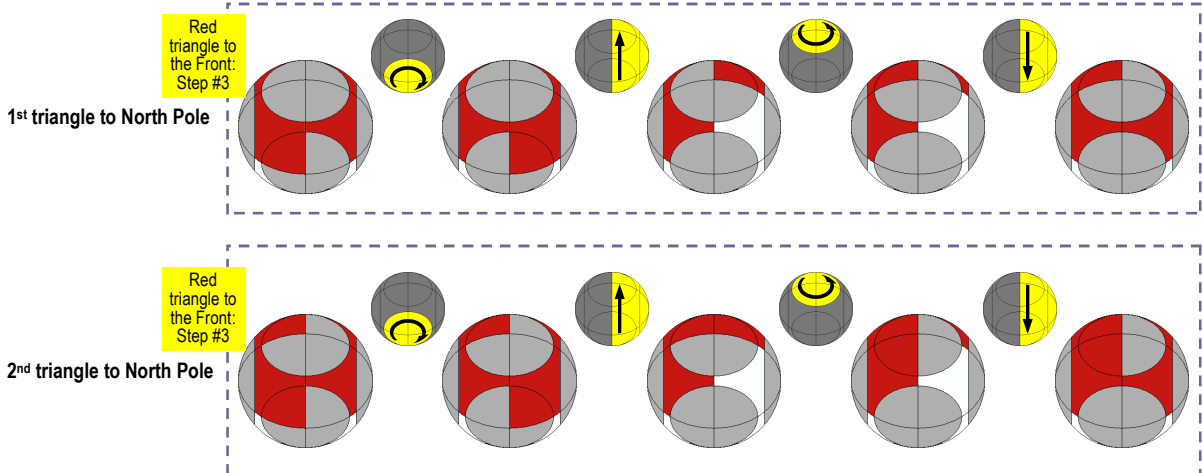
- 1.- Bring a triangle from any "Side Pole" to the "Front Pole"
- 2.- Bring a triangle from the "South Pole" to the "Front Pole"

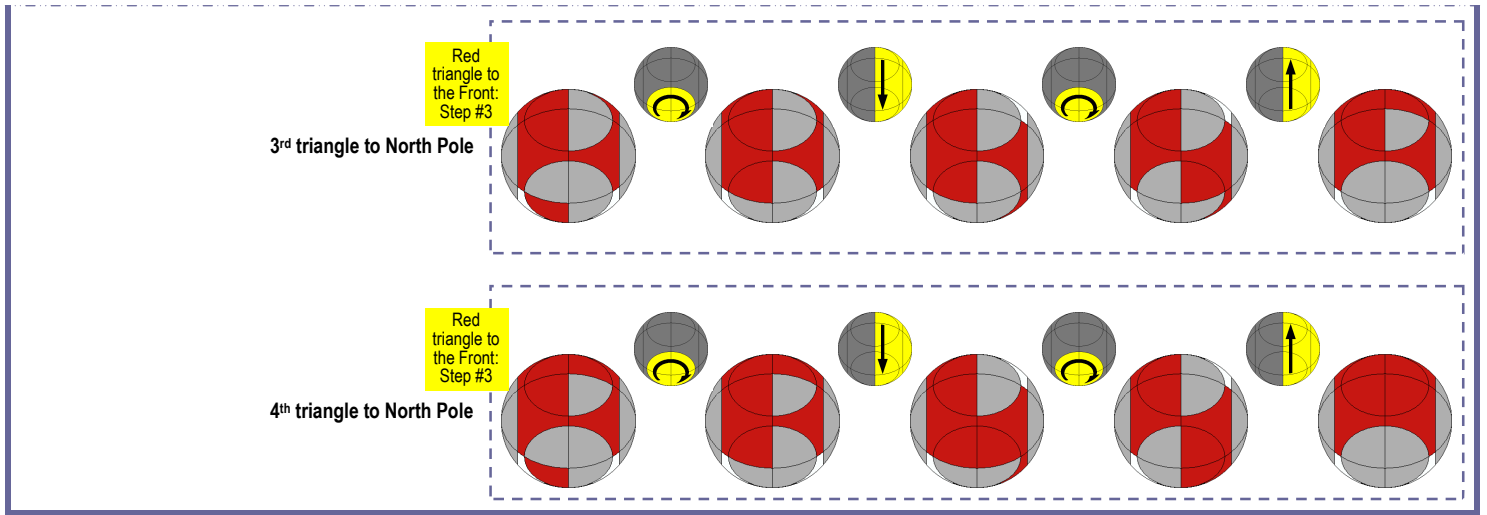
In both cases it is intended to swap a red triangle to the Front Pole without disturbing the already reached positions of the stars and the rest of the triangles.



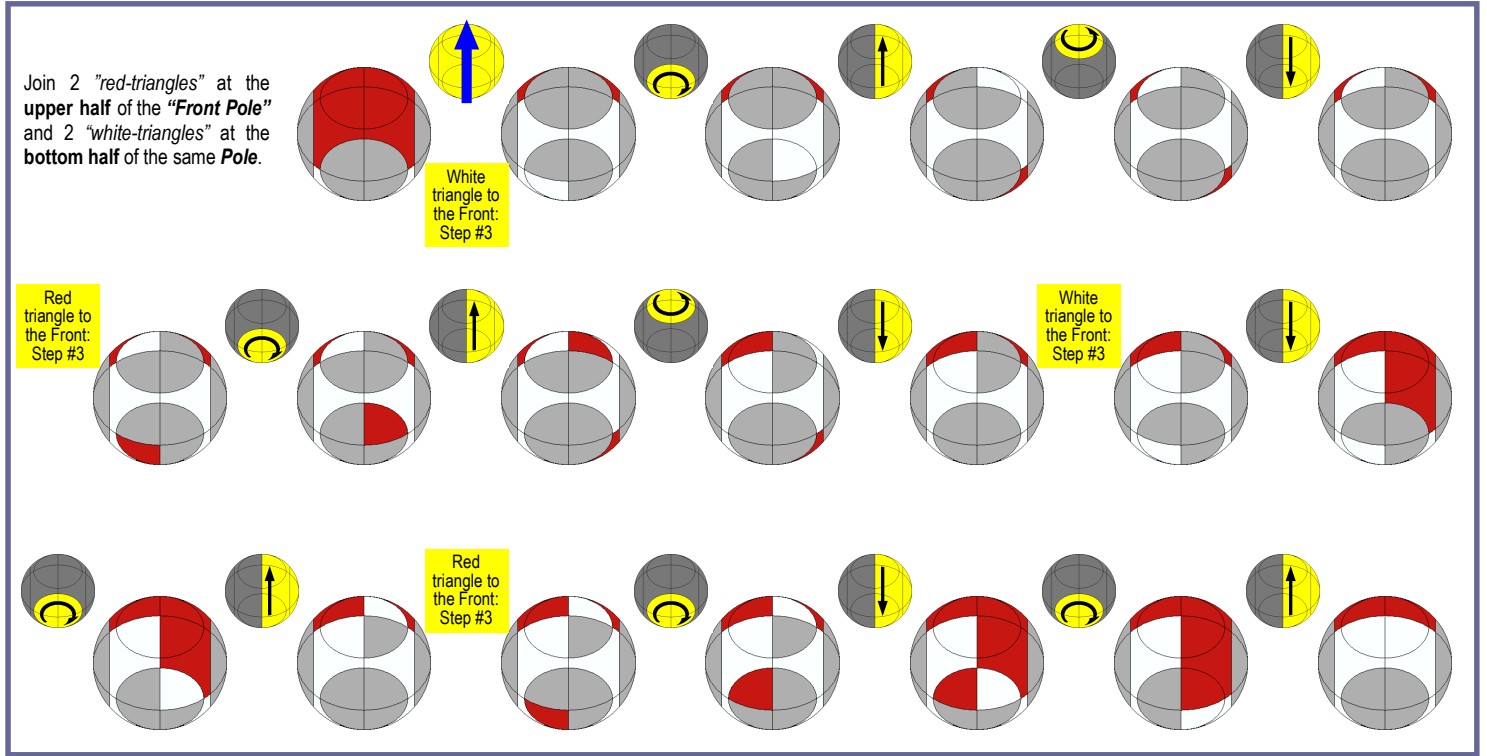
STEP #4 Solve the North Pole

Join "4 red-triangles" in the "North Pole". To get it, transfer red triangles, one by one, from the "Front Pole" to the "North Pole". Previously, we should place and view one by one at the Front Pole, as we learned in the step #3. Follow the next 4 different sub-steps as shown in the graphics.

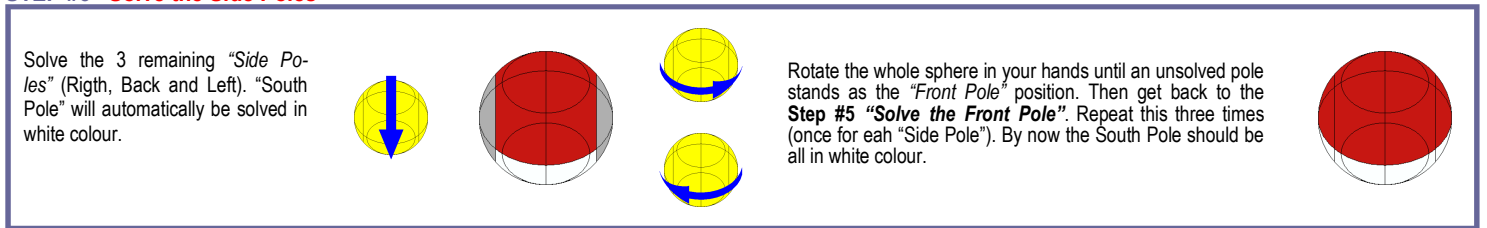




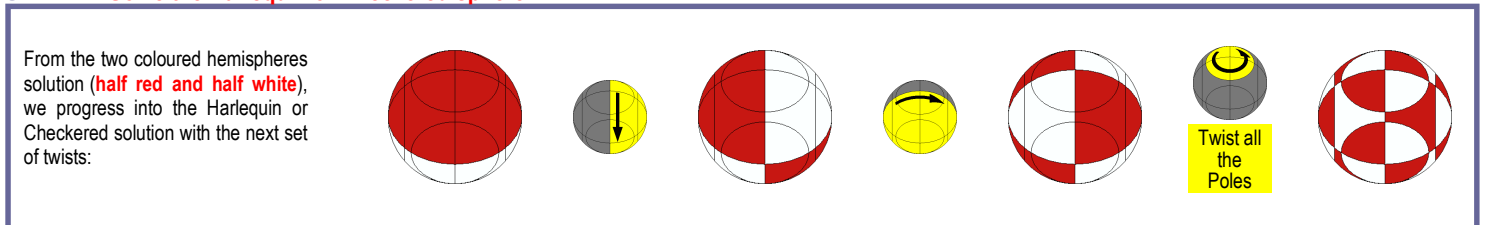
STEP #5 Solve the Front Pole



STEP #6 Solve the Side Poles

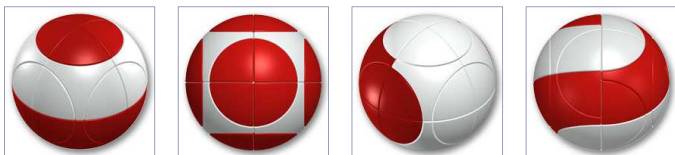


STEP #7 Solve the Harlequin or Checkered sphere



OTHER SOLUTIONS

Challenge yourself to get the following solutions. Discover your own method and tricks:



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