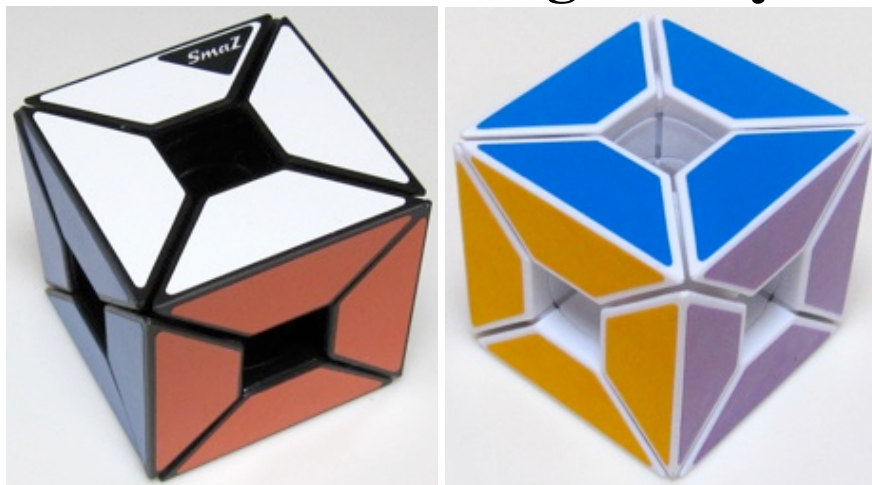


Rubik 3x3x3 Edges Only



a.k.a. Cornerless Void Cube

Left: made by Smaz Smart Toy Shop IQ Toys from a Gentosha Void Cube 2009.

right: mass produced by Cube For You (C4Y) 2009;

(plastic, 2.25 inches,

left: white opposite yellow, blue opposite green, orange opposite red,

right: blue opposite green, purple opposite red, and yellow opposite gray;

left looks nice, right has a smoother mechanism)

A simplified *Rubik 3x3x3 Void Cube* that removes everything but the edges from a standard *Rubik 3x3x3 Cube*; complements the *Rubik 2x2x2 Cube* that removes everything but the corners.



The puzzle has exactly two solutions. To see this, observe that for each color there is exactly one other color for which it shares no edge, so this determines the pairs of colors that are opposite each other. Now choose two adjacent colors to make a standard orientation with one on the top and one on the front (for example, for the puzzle on the right above, blue on top and purple on front), which uniquely determines the bottom and back colors, and now it is possible to solve the puzzle with either choice for the left and right colors.

Although a solution for the void cube can be used here (omitting solving corners), shorter sequences can be employed because there is no need to avoid disturbing the corners when manipulating the edges.