Rubik's Magic I

"Link the Rings"

Welcome to the Solution of Rubik's Magic I, which is actually two puzzles in one, and each puzzle is nothing more than an 8-piece jigsaw puzzle (with a bunch of fishing line wrapped around it). You can either solve the side where the three rings are apart, or solve the side where they are looped together. You cannot solve both sides at the same time; for as you solve one side the other becomes scrambled. Before trying to solve any side of the puzzle, it is best to educate yourself about the thing by reading this page.

~~~ Terminology ~~~

Signature Tile
(Unlinked Side)

Triple-Arc Tile
(Linked Side only)

Let's get aquainted with some techno-slang...

Unlinked Side: The side of the puzzle where the rings are unlinked. When this side of the puzzle is solved, the rings are all in a straight row, and the puzzle is at the 4x2 rectangular shape.
(On this side of the puzzle, no arcs overlap each other in any tile.)

Linked Side: The side of the puzzle where the rings are linked. When this side of the puzzle is solved, the puzzle is at the notched 3x3 shape, and the rings are staggered (like they are on the Olympic's flag).
(On this side, certain tiles have arcs that overlap each other.)

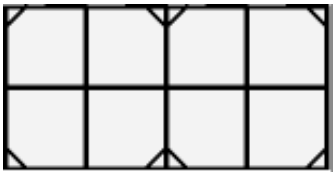
Signature Tile: The tile on the Unlinked Side that has Erno Rubik's signature on it; a very crucial tile of the puzzle.
*(**Caution:** there is another tile on the Linked Side that looks very similiar to the Signature Tile on the Unlinked Side. Try not to confuse the two of them.)*

Triple-Arc Tile: The only tile on the puzzle that has three arcs on it; the most critical tile of the puzzle.
*(**Note:** this tile is always on the Linked Side.)*

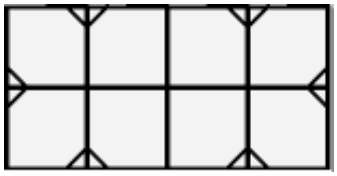
...Try to become familiar with these terms. They will appear thoughout the solutions.

A word about Cords

You've probably noticed that there are numerous troughs that hatch across the surface of each tile. Some troughs are empty, while others are strapped with cords that look like fishing line. Once the puzzle is at the 4x2 shape, one side has cords in the extreme corner troughs, while the other side does not. It is obvious that the cords hold the 8 tiles together, but it is important to recognize which side has corded corners. It is also important to realize that the corded corners can jump from the Linked Side to the Unlinked Side at any given time.



Corners with cords



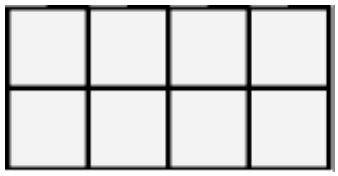
Corners without cords

Laws of Rubik's Magic I

- **Law #1:**
  There are only 2 possible flat shapes for the puzzle. Coincedently enough, they are the 4x2 rectangle (the shape when the Unlinked Side is solved) and the 3x3 square with a corner notched out (the shape when the Linked Side is solved). All other octominoes are impossible.

- **Law #2:**
  No tile can ever stray to the wrong side. Once the puzzle is flat (without any stacked squares) all the unlinked tiles are on one side, while the linking tiles are on the other side.

- **Law #3:**
  When the puzzle is flat, all pieces are strung together like rosary beads. In other words, square #1 is always adjacent to square #2, which is always adjacent to square #3, etc., etc., and the last (#8) square is always adjacent to the first (#1) square. The arrangement can be either clockwise or counter-clockwise for either side at any given time.



The only two possible flat shapes that can be formed by the puzzle

Solving the Puzzle(s)

As mentioned before, Rubik's Magic I is "two-click, two-click" two puzzles in one. Whether you are solving the Unlinked Side or the Linked Side, the first thing you must do is try to get the puzzle in the 4x2 configuration. Chances are your puzzle is folded beyond belief like a chaotic origami figure, and the only cure would be to buy a book called THE SIMPLE SOLTION TO RUBIK'S MAGIC, by James G. Nourse (the same brillant author of TSSTRC). The man is a true guru, way up there with Donald Knuth, but I have to respect him by not plagurizing his solution on the web.

Q: What side is which puzzle?

A: Once the puzzle is in the 4x2 flat shape, study the tiles on both sides. Only one side has the **Triple-Arc Tile**, and that defines the **Linked Side** of the puzzle. By process of elimination, the other side must be the **Unlinked Side**. Therefore, you don't have to worry about any "you got chocolate in my peanut butter" axioms.

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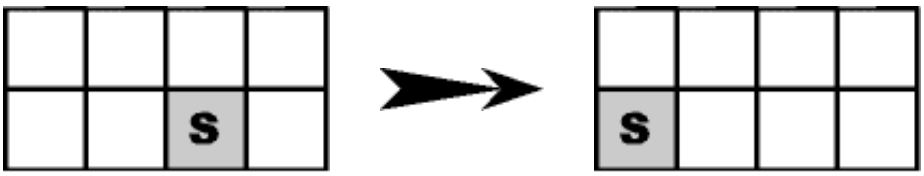
Solving the Unlinked Side

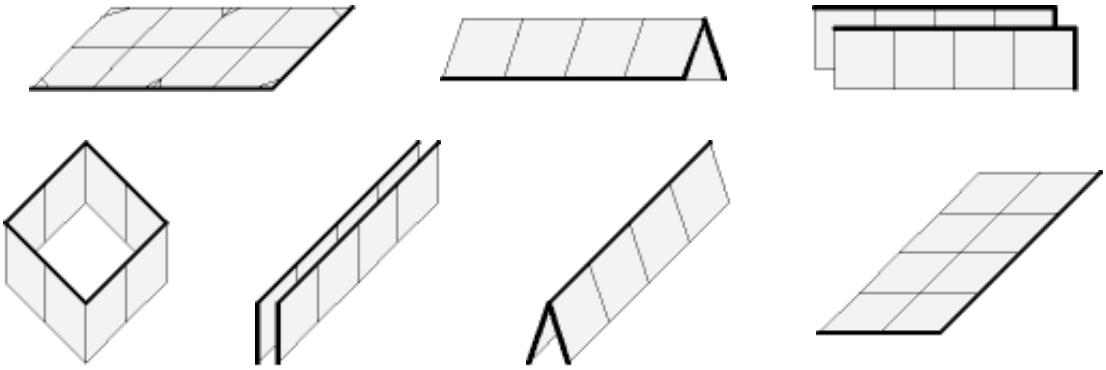
Signature Tile

Before performing this solution, you must first form the puzzle in the 4x2 rectangular shape. I am not going to supply that kind of info; I just don't have that kind of cyber-space. You must also recognize which side is the Unlinked Side, but that part's easy. There is only one tile that has 3 arcs drawn upon it, and that tile happens to be on the Linked Side. Therefore, the Unlinked Side is the side **without** the Triple-Arc Tile.

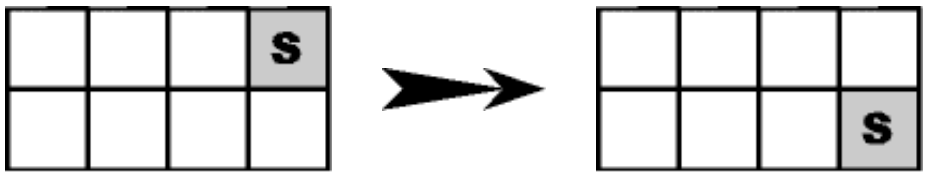
1: Get the Signature Tile off the Middle Section



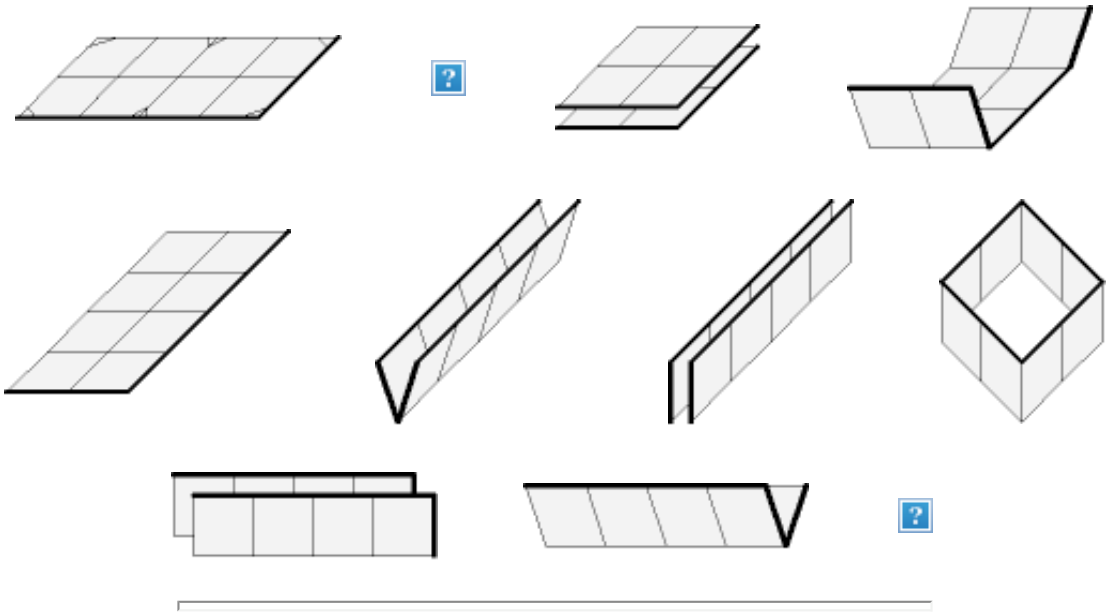
Even though the diagrams show the tile starting and landing on particular spots, use the moves below if (and only if) the Signature Tile appears **anywhere** in the middle section. But first, make sure that you are working on the side **with** corded corners, which may not necessarily be the Unlinked Side. After finishing the moves, you may have to flip the puzzle over to view your progress on the Unlinked Side. Of course, if the Signature Tile is already on a corner to begin with, then skip these instructions.



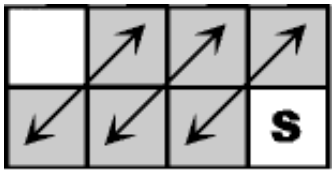
2: Move the Signature Tile to the Correct Corner



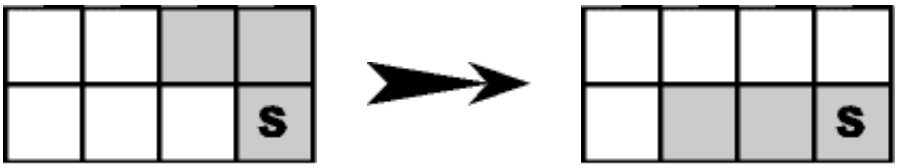
The correct spot for the Signature Tile is the lower-right corner. If it appears on the left side instead, merely rotate the entire puzzle 180 degrees, and the Signature Tile will then be on the right side. If it appears on the upper-right corner, use the moves below to shift it to it's correct spot. Once again, make sure you are working on the side **with** corded corners (which may not necessarily be the Unlinked Side).



3: Swap the Other Tiles in Place



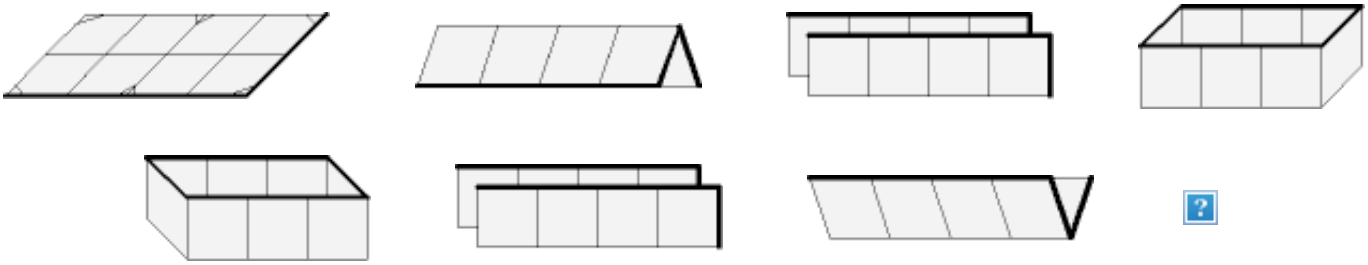
How can you tell if you need to swap the other tiles, anyway? Well, there are two other tiles (besides the Signature Tile) that have **text** on them; one with the company logo and the other with copywrite info. If two of those tiles (shaded gray in the diagrams below) are on the top row, they need to be lowered down, next to the Signature Tile on the bottom row. If all three of these tiles (shaded in gray in the diagrams below) are already on the bottom row, then skip this step.



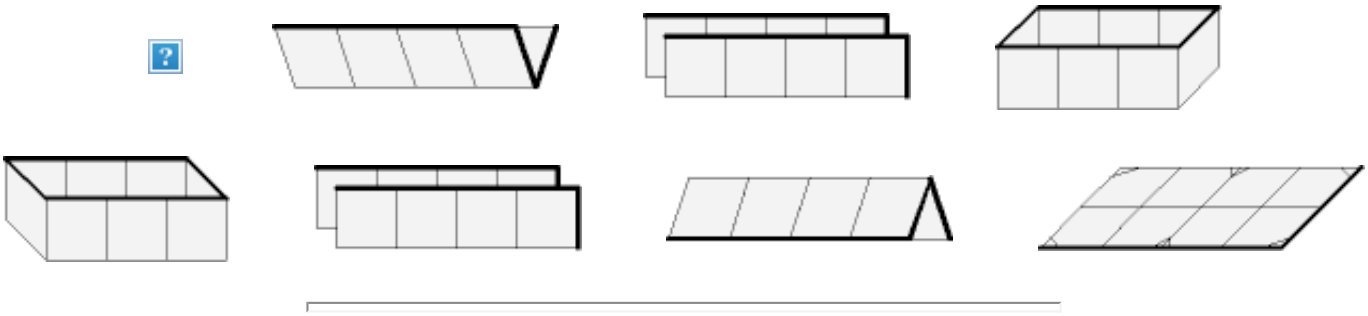
*Tiles with **text** at the wrong location* *Tiles with **text** at the correct location*

In this case, you **must** work on the Unlinked Side, regardless of the cord patterns. Because of that, there are two sequences below; but you can only use one of them, not both. If the Unlinked Side side has corded corners, then do the first sequence only; if it does not, then do the second sequence instead.

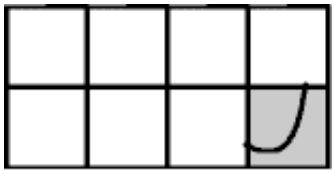
Corners WITH cords:



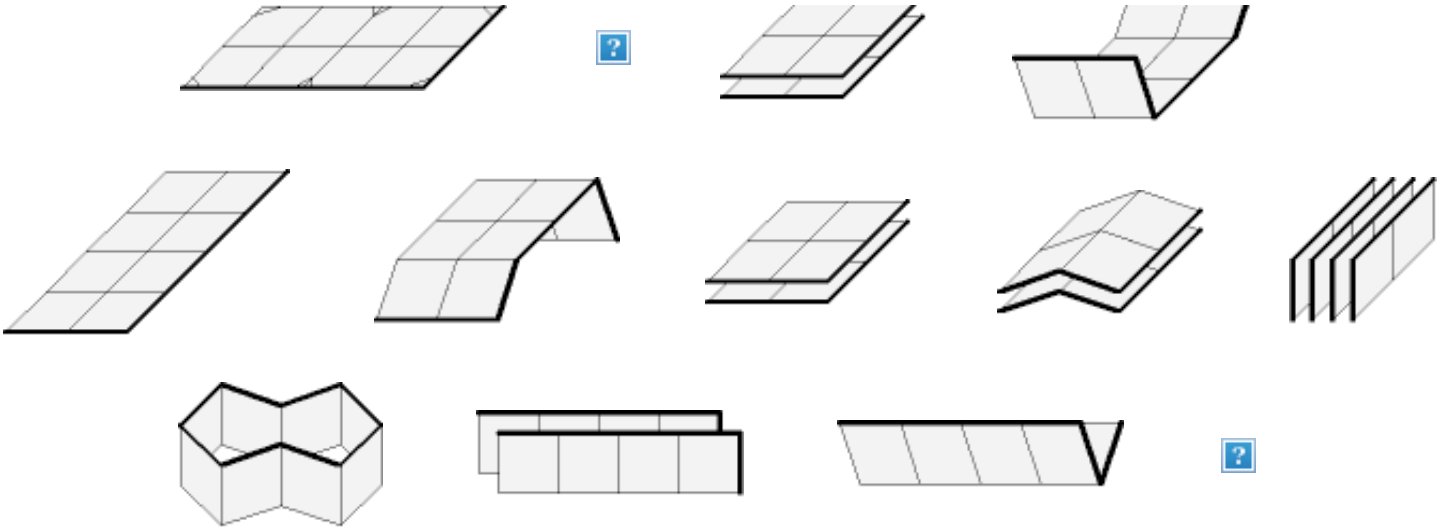
Corners WITHOUT cords:



4: Rotate all Tiles in Place and Solve the Puzzle



By now, all tiles on the Unlinked Side should now be in place. However, the Signature Tile must be rotated until it looks like the diagram above. Once the Signature Tile is rotated correctly in place, the remaining 7 tiles are also fixed as well. You may have to repeat this series of moves **three times** before the Unlinked Side is solved. Always make sure you start off by working on the side **with** corded corners before doing the series, and before repeating the series.



What does this sequence do? It rotates 4 tiles clockwise, and the other 4 counter-clockwise. If you have to repeat this sequence, you may have to flip the puzzle over (between repeats) to check on your progress.

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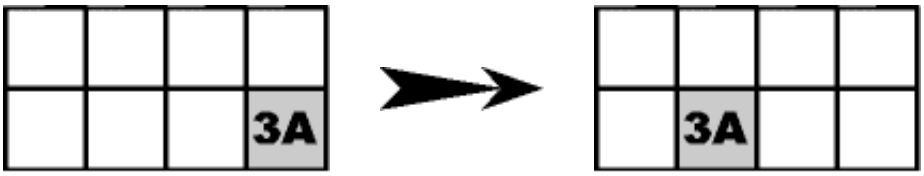
Rubik's Magic I

Solving the Linked Side

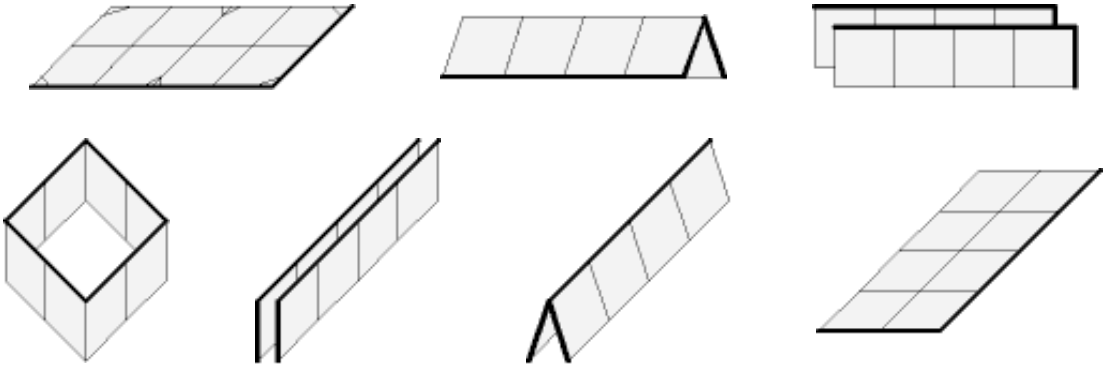
Triple-Arc Tile

Before performing this solution, you must first form the puzzle in the 4x2 rectangular shape. I am not going to supply that kind of info; I just don't have that kind of cyber-space. You must also recognize which side is the Linked Side, but that part's easy. There is only one Triple-Arc Tile, and that tile happens to be on the Linked Side.

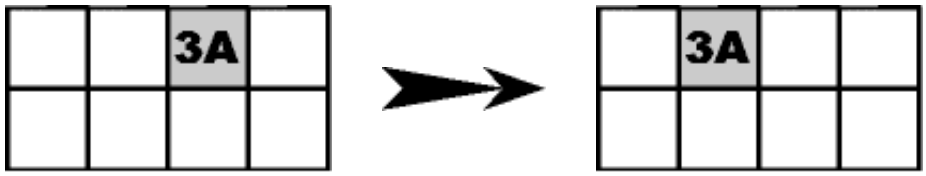
1: Get the Triple-Arc Tile off any Corner



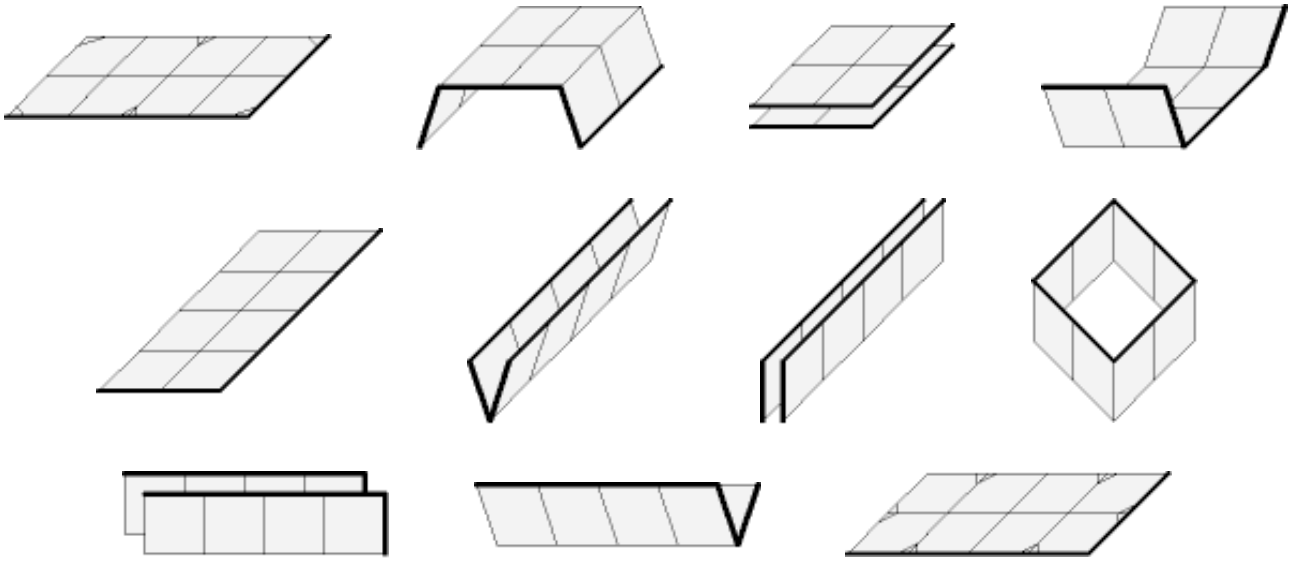
Even though the diagrams show the tile starting and landing on particular spots, use the moves below if (and only if) the Triple-Arc Tile appears in **any** corner. But first, make sure that you are working on the side **with** corded corners, which may not necessarily be the Linked Side. After finishing the moves, you may have to flip the puzzle over to view your progress on the Linked Side. Of course, if the Triple-Arc Tile is already in the middle section to begin with, then skip these instructions.



2: Move the Triple-Arced Tile to its Correct Spot

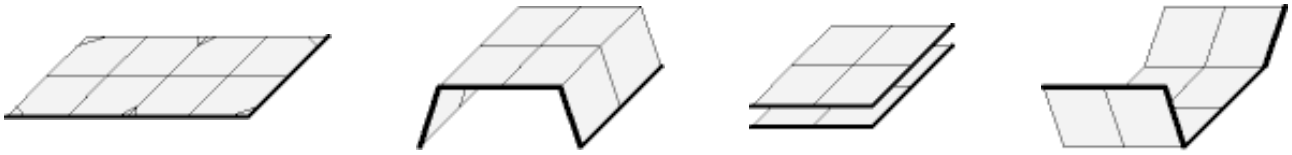


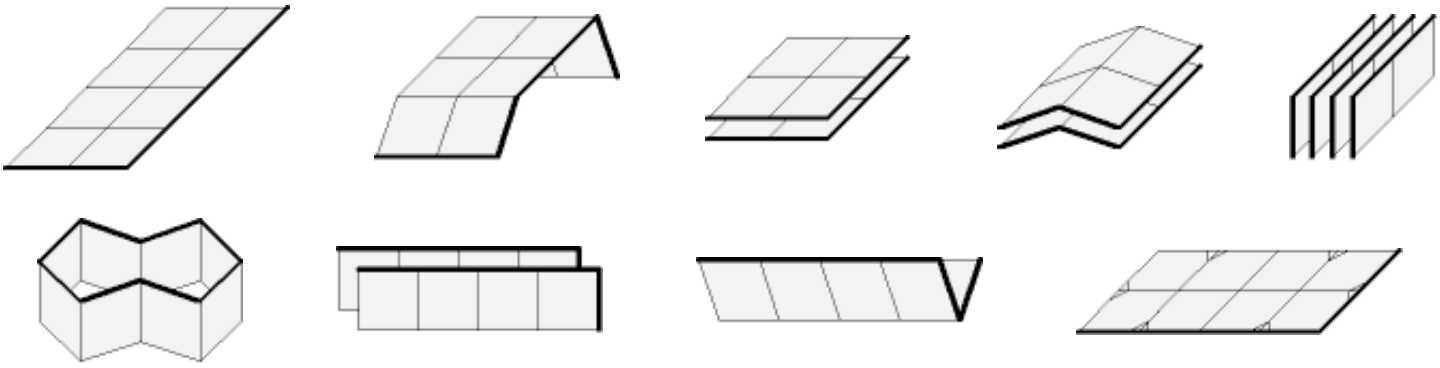
The correct spot for the Triple Arc Tile is in the middle section, at the upper-left edge. If it appears on the bottom side instead, then merely rotate the entire puzzle 180 degrees, and the Triple-Arc Tile will then be on the top side. If it appears on the upper-right edge, then use the moves below to shift it to it's correct spot. Once again, make sure you are working on the side **with** corded corners (which may not necessarily be the Linked Side).



3: Rotate the Triple-Arc Tile in Place

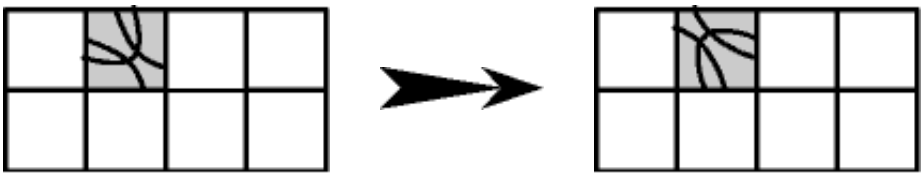
By now, all tiles on the Linked Side should now be in place. However, the Triple-Arc Tile must be rotated until it looks like the diagram above. You may have to repeat this series of moves **three times** before the Linked Side is solved. Always make sure you start off by working on the side **with** corded corners before doing the series, and before repeating the series.





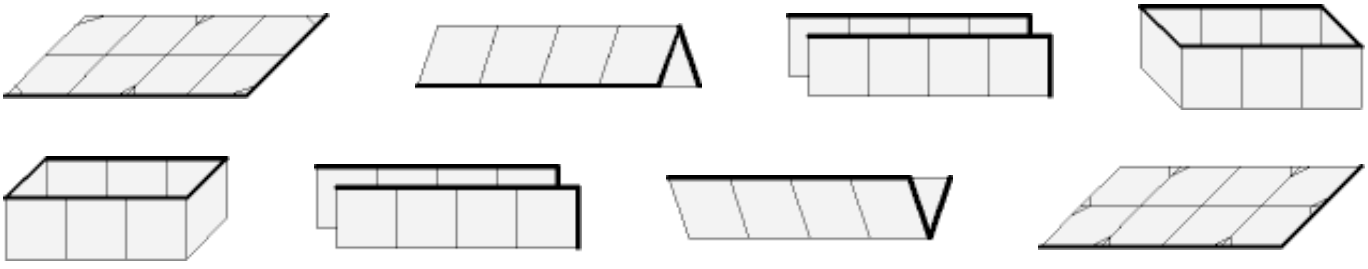
What does this sequence do? It rotates 4 tiles clockwise, and the other 4 counter-clockwise. If you have to repeat this sequence, you may have to flip the puzzle over (between repeats) to check on your progress.

3a: Shortcut... a quick 180



The move below rotates the Tripe-Arc Tile in place by 180 degrees. Why was this shortcut added? Because it regularly occurs half the time! In this case, you **must** work on the Linked Side, regardless of the cord patterns. Because of that, there are two sequences below; but you can only use one of them, not both. If the Linked Side side has corded corners, then do the first sequence only; if it does not, then do the second sequence instead.

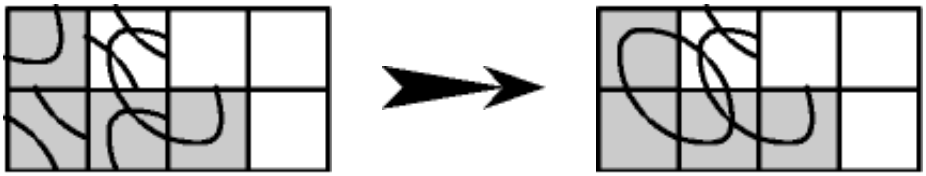
Corners WITH cords:



Corners WITHOUT cords:

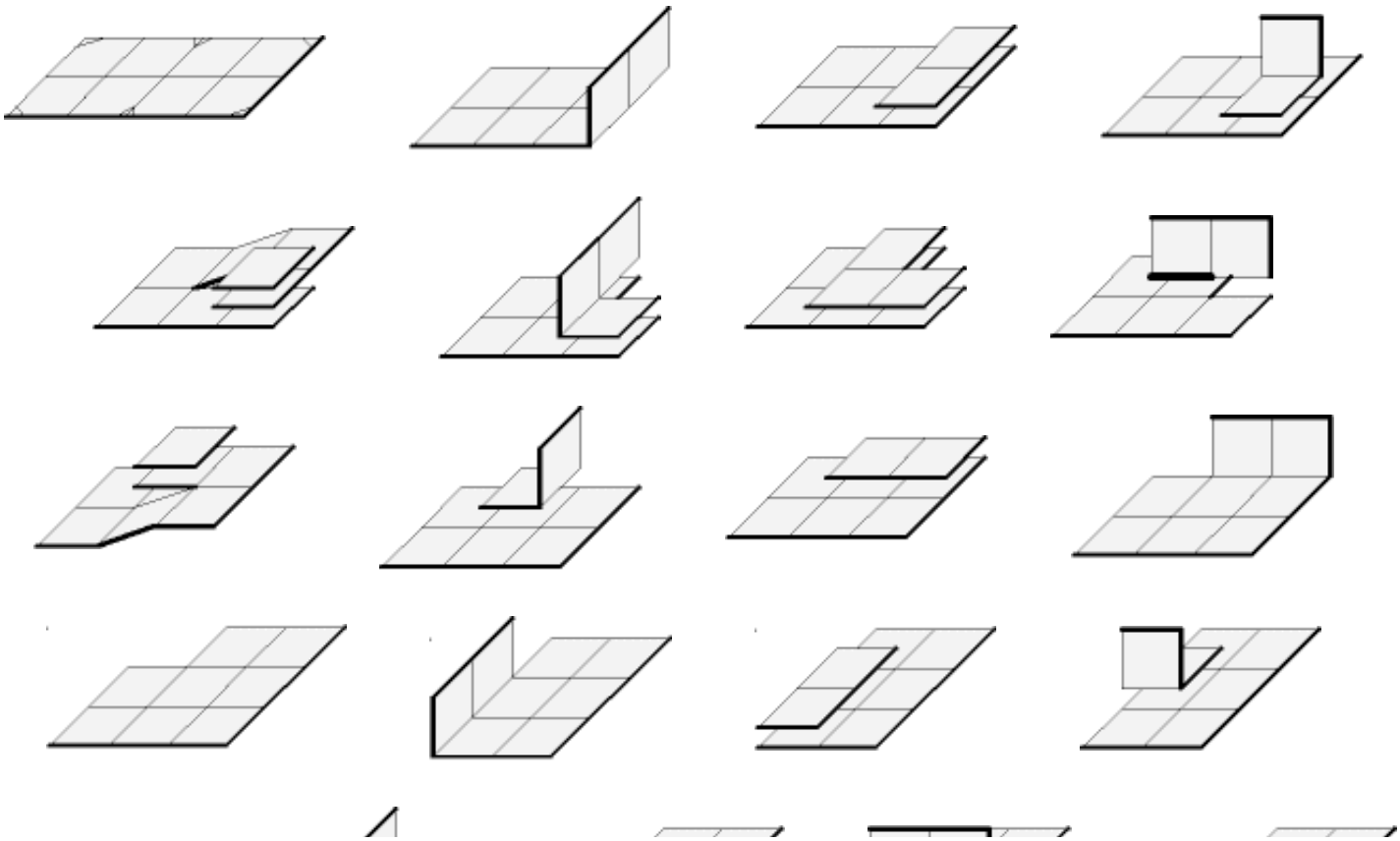
4: Fix the Four Neighboring Tiles

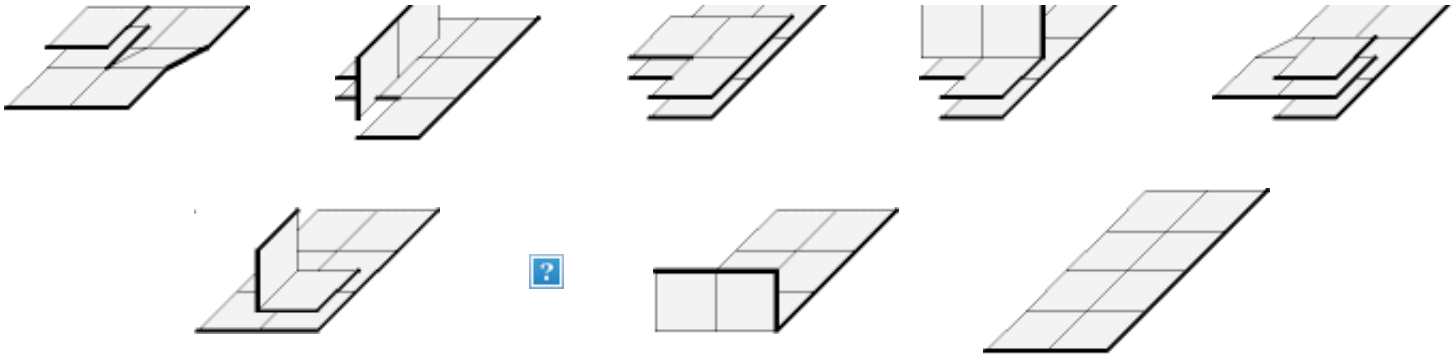
The Triple-Arc Tile should now be correctly rotated in the correct spot. But what about the neighboring tiles (shaded in gray in the diagram above)? Carefully study the Triple-Arc Tile and neighboring tiles...



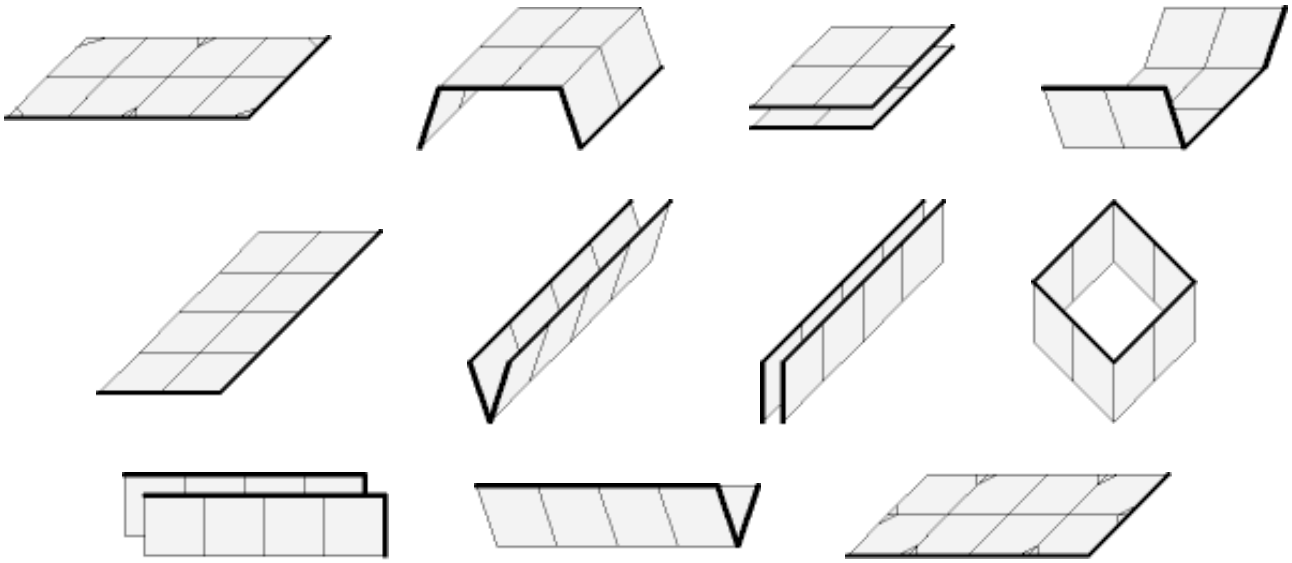
discombobualted *almost finished*

If the puzzle looks discombobulated, then you must do the moves below. Otherwise, if the puzzle looks like it's almost finished, then you can skip this step.

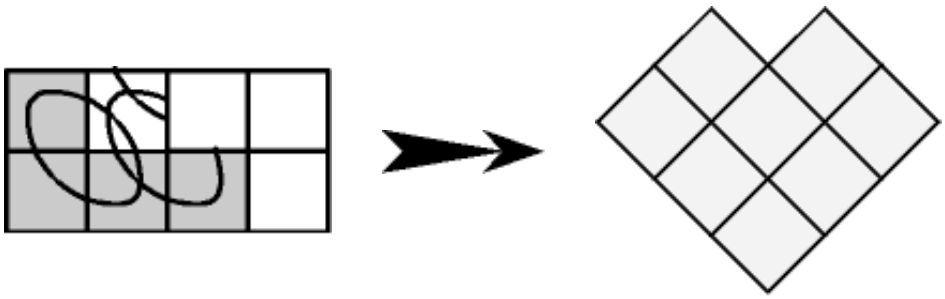




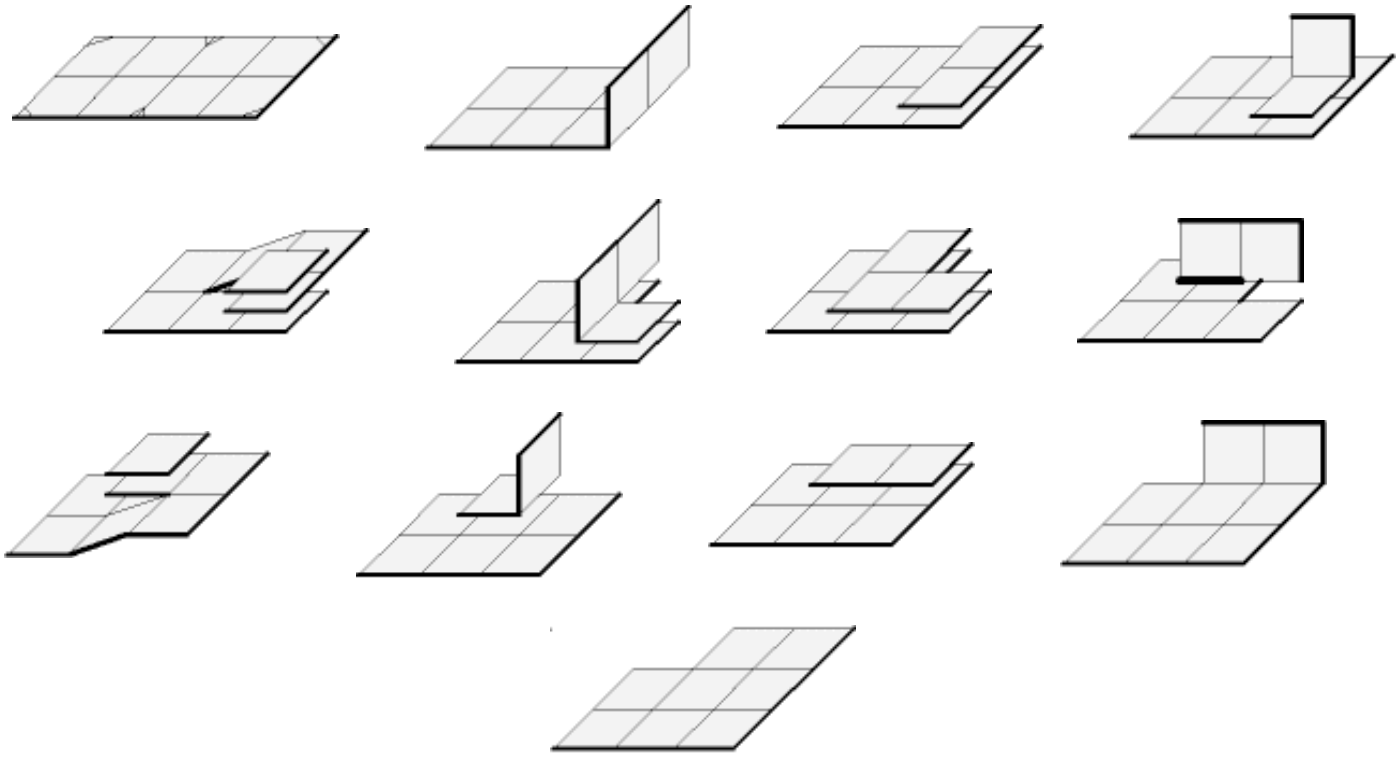
...followed by these moves:



5: Final Transformation & Solve the Puzzle



At this point do not worry about corners with or without cords. By coincedence, the Linked Side happens to have corded corners at this stage anyway. Now that 5 pieces of the puzzle are already solved, then transform the shape to fix the other 3 tiles, and the enrtire Linked Side is solved!



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