

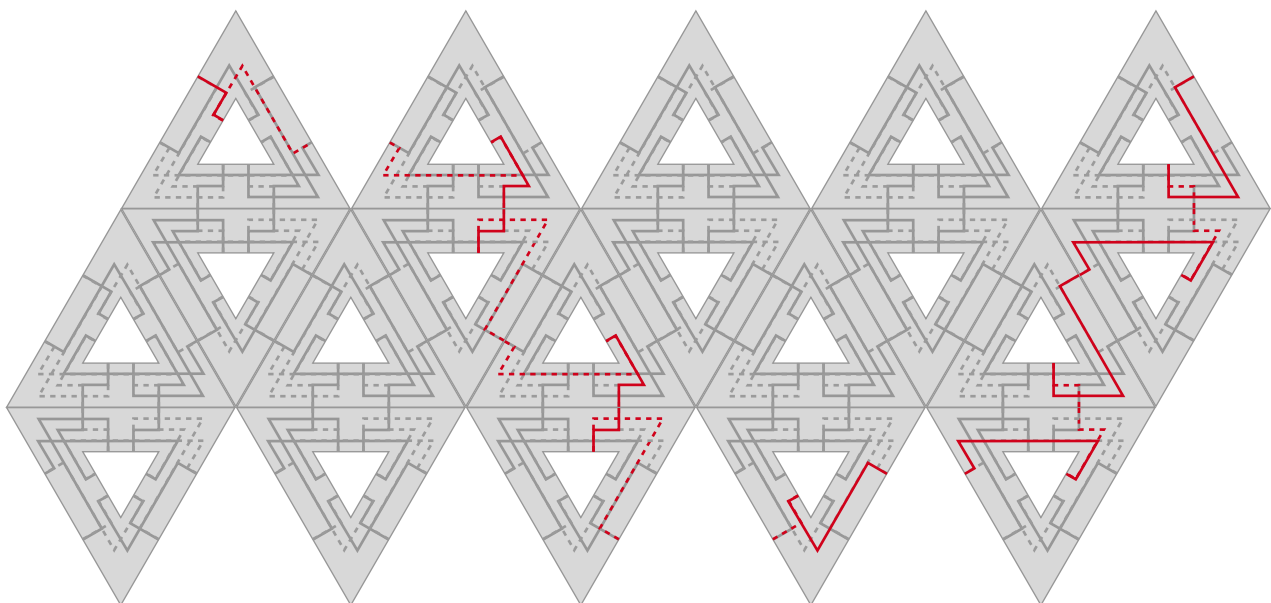
Triangular Intrigue - Solution

Once the initial instructions are carried out (cut, fold in half, glue) one has 20, 2-sided triangles with triangular holes in their centers. Each triangular face (front and back) has the same arrangement of path segments, but with different letters along the paths and different symbols (halves of squares, diamonds, circles, and hexagons) where the paths meet the outer edges of the triangles.

Each triangle can be uniquely matched edge-to-edge with another triangle along each of its three sides by matching both symbols on both sides of the triangle. For example, a particular edge of one triangle might have {circle, square} on the front side and {square, triangle} on the back side; there will be exactly one other triangle whose edge matches all four symbols exactly.

The only way to complete the edge matching for all twenty triangles simultaneously is to arrange them three-dimensionally into the Platonic solid known as the icosahedron. For solving purposes it is easier to keep it flattened out as shown below, but is fun to tape the whole thing up as an actual icosahedron when finished. :-)

Once the triangles have been properly arranged, it turns out that the path segments on the triangles connect into 12 separate closed paths, each of which circles the object by alternately passing over the fronts and backs of 10 triangles, weaving into and out of the triangular holes. Here is a picture of one possible flat arrangement of the triangles (there are many ways to flatten the net), with one complete path highlighted in red (dashed line indicates path on back side):



Triangular Intrigue - Solution (cont.)

Now we can finally make sense of the letters along the path segments by following each path all the way around its circuit (colored markers can be helpful here to keep track of the circuits). Each circuit - when read in the correct direction, and from the right starting point - yields a 20-letter phrase, and each phrase clues a single word with the consecutive letters "TRI" somewhere in it. Arranging these clue phrases and their answers in alphabetical order yields:

Clue Phrase

ACT OF REVENGE FOR WRONG
CANOE WITH FLOAT ON SIDE
ENROLLED AT UNIVERSITY
FIBRILLATION LOCATION
INFO TYPE ON A FOOD LABEL
KIND OF TANARRI IN D AND D
LOTION MAKING SKIN TAUT
PLACING LIMITATIONS ON
QUITE RAUCOUS OR SHRILL
SPECIES PLAYER NATASHA
VERY TWISTY AND COMPLEX
XMAS PEAR TREE RESIDENT

Answer

RETRIBUTION
OUTRIGGER
MATRICULATED
ATRIUM
NUTRITIONAL
WASTRILITH
ASTRINGENT
RESTRICTIVE
STRIDENT
HENSTRIDGE
INTRICATE
PARTRIDGE

When arranged in this order, the first letters of the answers spell ROMAN WAR SHIP, which clues the final answer: another "TRI" word, **TRIREME**.