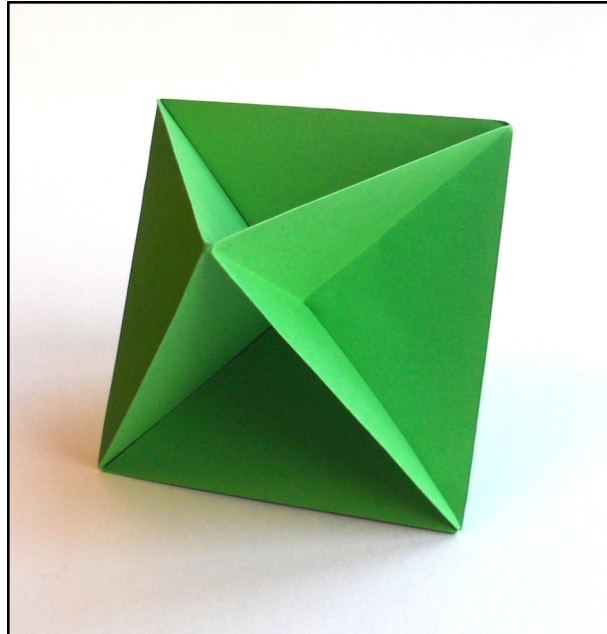


2-part Nolid Octahedron

Designed by David Mitchell

This is a very simple design which is effectively a variation of Molly Kahn 's Preliminary Ornament (my name for it, not hers). The design works best when made from homogeneous paper, paper that is the same colour both sides, since part of both sides of the paper are exposed to view in the finished design.

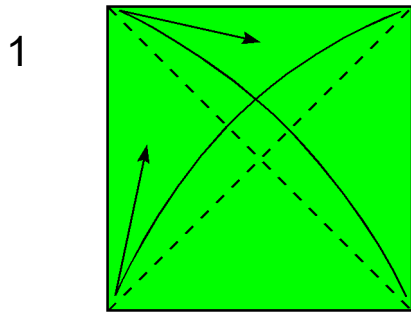
If you want a homogeneous design folded from irogami, paper that is white one side and coloured or patterned on the other, you can either:



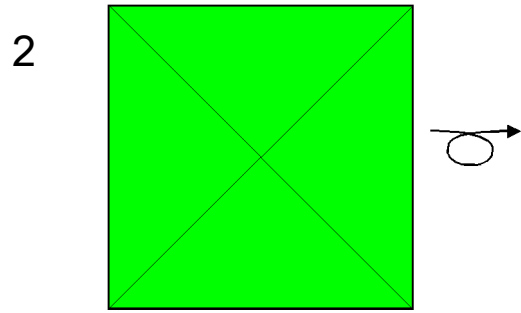
1. Begin with a square and blintz it (fold all four corners to the centre) then treat this half-size square as your starting shape.
2. Begin by cutting a square in half to create a 2x1 rectangle, fold both short edges into the centre, then treat the resulting quarter-size square as your starting shape.
3. Follow the method given in part 2 of these diagrams. This method gives the largest result in proportion to the size of the original square.

I discovered the basic design in 1988. The method of folding from irogami given in part 2 was worked out in 2016.

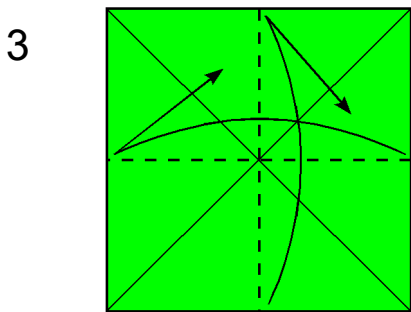
You will need two squares of paper, either homogeneous paper or irogami depending on which option you are following. For clarity the diagrams have been drawn showing how to fold the design using squares of two different colours but the design probably works best when folded from just a single colour.



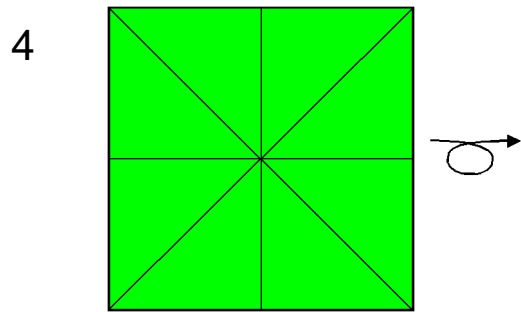
1. Fold in half diagonally, then unfold, in both directions.



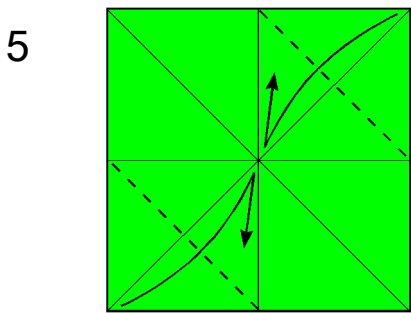
2. Turn over sideways.



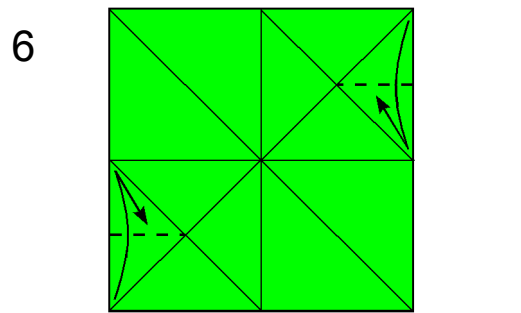
3. Fold in half edge to edge, then unfold, in both directions.



4. Turn over sideways.

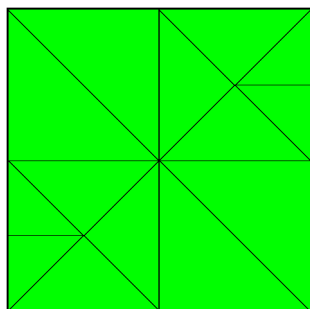


5. Fold the top right and bottom left corners into the centre, then unfold.



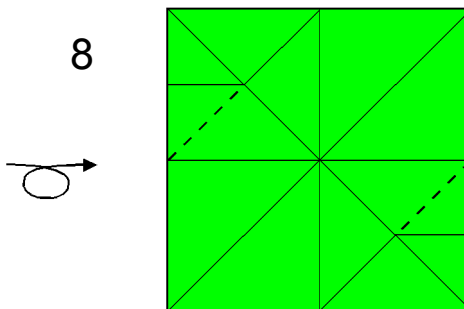
6. Make two small creases in the right and left edges as shown here.

7



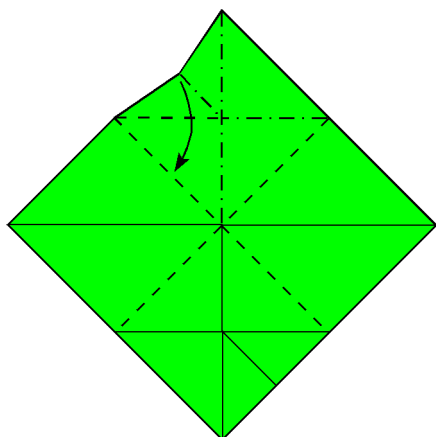
7. Turn over sideways.

8



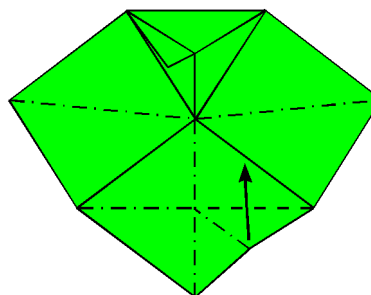
8. Reverse the direction of the two creases marked with dashed lines.

9



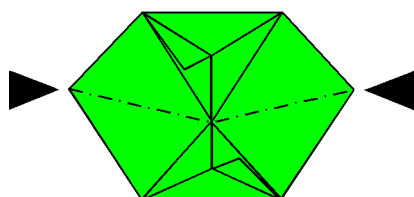
9. Collapse the paper into the shape shown in picture 10. The centre of the paper becomes concave as you do this.

10



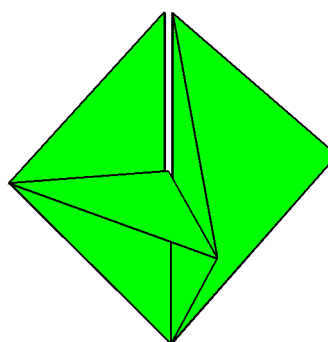
10. Repeat step 9 on the other half of the paper.

11



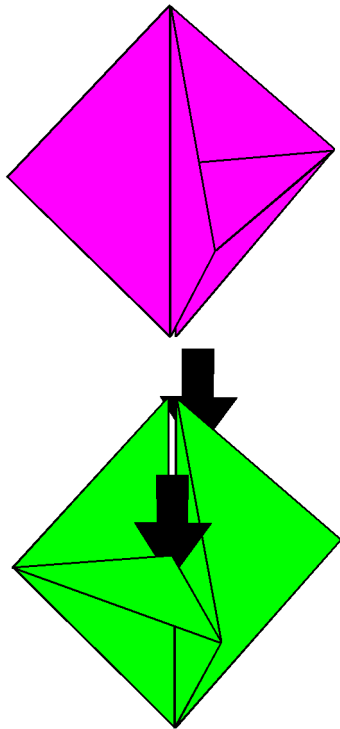
11. Push the left and right points (that are pointing up towards you) together to complete the module.

12



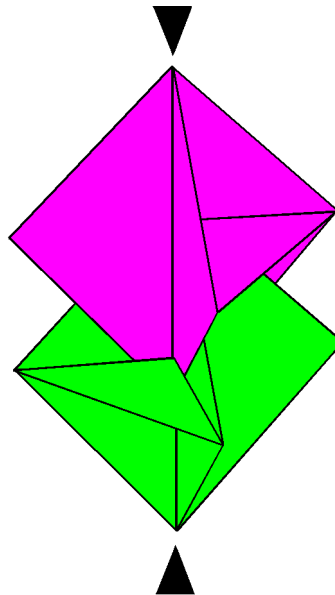
12. The result should look like this. Make two.

13



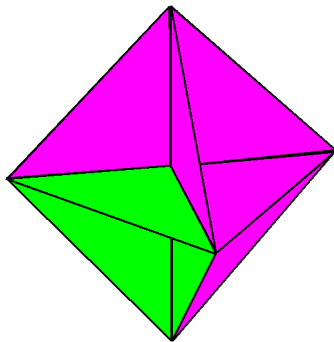
13. The modules go together like this. It is difficult, but not quite impossible, to persuade all the points to slide gently into their matching pockets.

14



14. Slide the modules fully together like this.

15

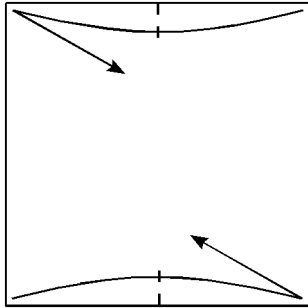


15. The 2-part Nolid Octahedron is finished.

Part 2 - Folding from irogami

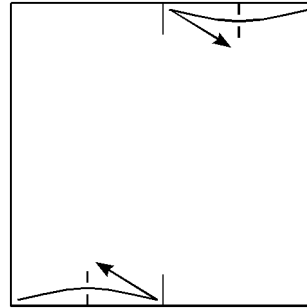
Begin with your paper arranged white side up.

16



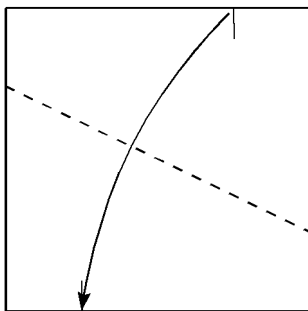
16. Make two tiny creases to mark the centres of the top and bottom edges.

17



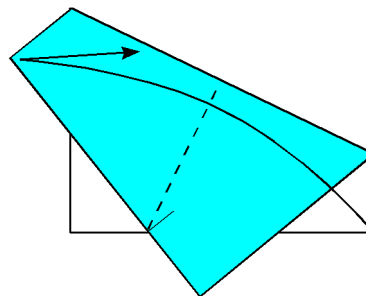
17. Make two more tiny creases to mark quarter way points on the top and bottom edges as shown.

18



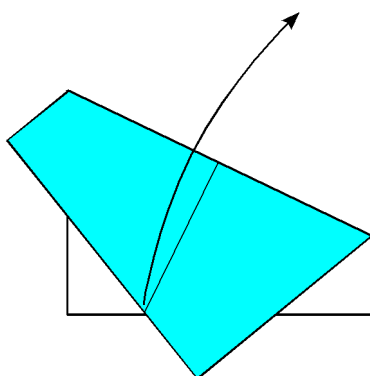
18. Fold in half diagonally downwards by bringing the quarter way points together.

19



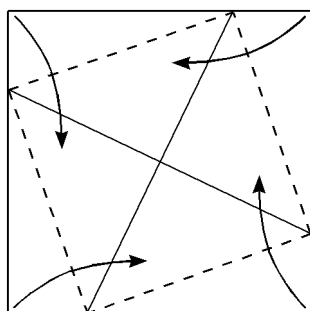
19. Fold in half from right to left, then unfold.

20



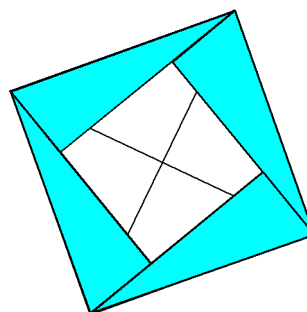
20. Open out completely.

21



21. Fold all four corners inwards in turn, working clockwise around the paper, using the points where the diagonal creases meet the outside edges to locate the folds. Once you have made one of these folds accurately you will find that it can be used to help locate the next.

22



22. Follow steps 1 to 11 to create the modules then assemble in the way shown in steps 13 and 14. Assembly of this version is slightly more difficult because there are a few extra flaps to contend with and tuck away inside. The final result, however, is just as clean, and somewhat more robust.

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