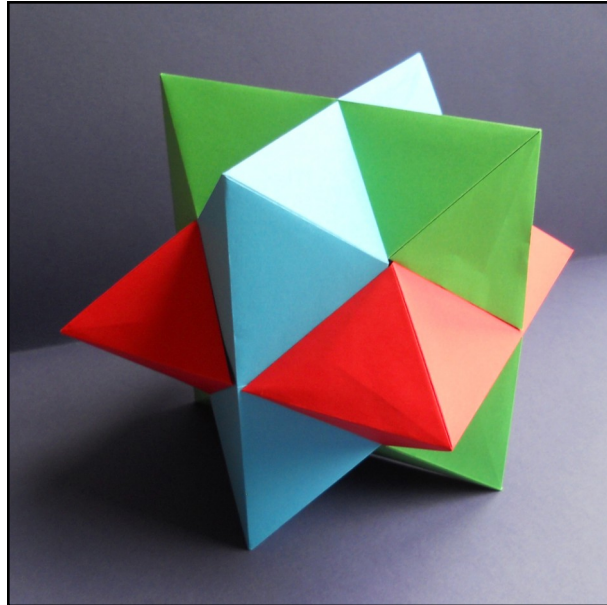


## 6-part Stellated Rhombic Dodecahedron

Designed by David Mitchell

Several paperfolders have told me they think this is my best modular design. I am not sure I agree ... but it is certainly up there. It was created back in 1989 and quickly diagrammed by David Petty and Francis Ow. Tomoko Fuse subsequently included it in one of her books. I have not drawn diagrams myself until now.

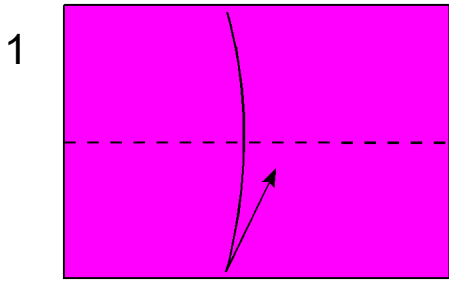


I particularly like the simplicity and elegance of the design and the way that the geometry of the modules arises naturally from the paper shape. The move in step 25 which creates the internal structure of the modules is particularly nice.

You will need six silver rectangles, two in each of three contrasting but complementary colours. DIN shape papers ( A4, A5 etc ) are good enough approximations of a silver rectangle for paperfolding purposes. If you only have access to US letter sized paper you can easily trim your paper down to silver rectangle proportions. A pdf download which shows you how to do this is available from the Utilities section of the Origami Heaven downloads page.

For clarity the diagrams show one side of the paper coloured and one white but the design works equally well from paper that is the same colour both sides.

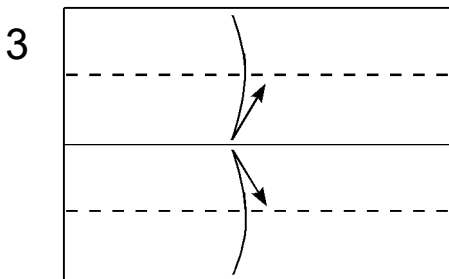
One word of warning, if you do not follow the ' turn over ' instructions carefully while pre-creasing the modules you will find the latter stages of the diagrams difficult to follow.



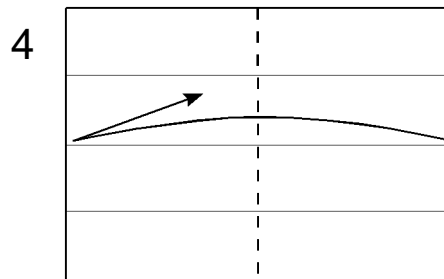
1. Fold in half downwards, then unfold.



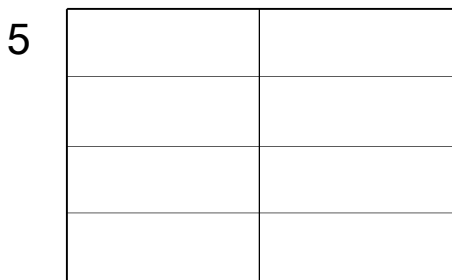
2. Turn over sideways.



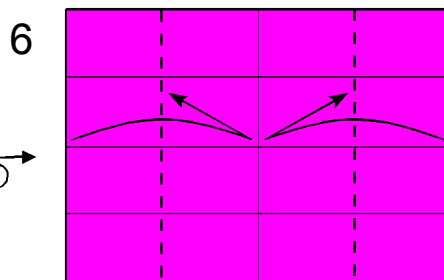
3. Fold the top and bottom edges onto the horizontal crease, then unfold.



4. Fold in half sideways, then unfold.

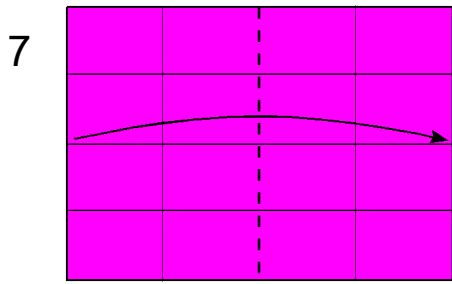


5. Turn over sideways.

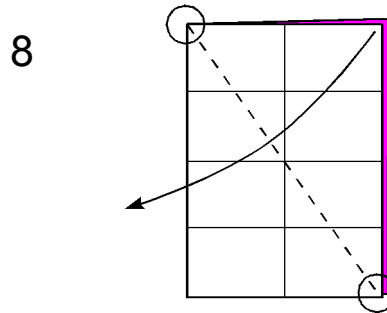


6. Fold both outside edges onto the vertical crease, then unfold.

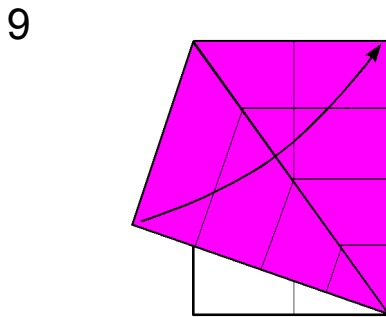




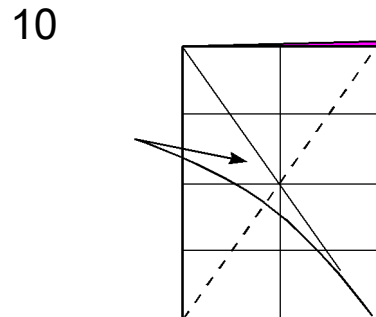
7. Fold in half from left to right using the existing crease.



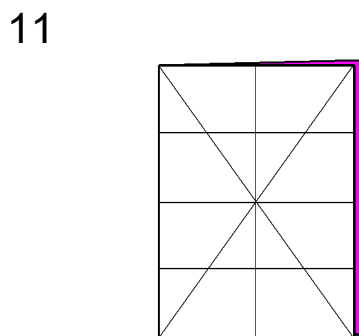
8. Fold the top right corner of the front layer inwards as shown, making sure the crease is formed accurately between the two points marked with circles.



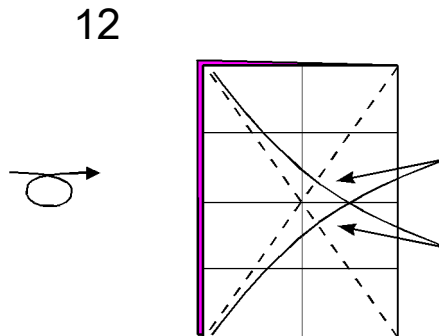
9. Open out.



10. Repeat step 9 on the bottom right corner of the front layer, then unfold.

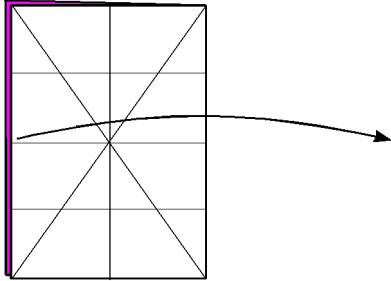


11. Turn over sideways.



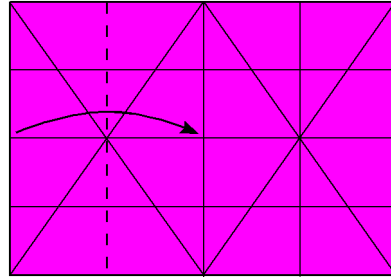
12. Repeat steps 9 and 10 on the other half of the paper.

13



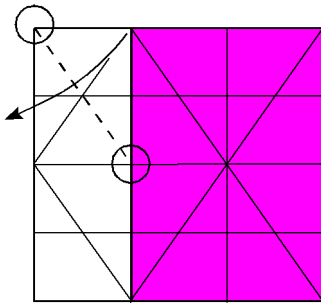
13. Open out

14



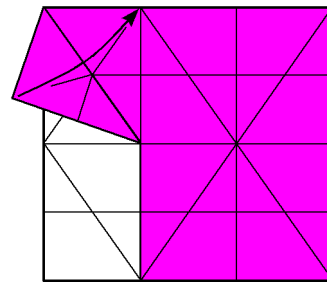
14. Fold the left edge inwards using the existing crease.

15



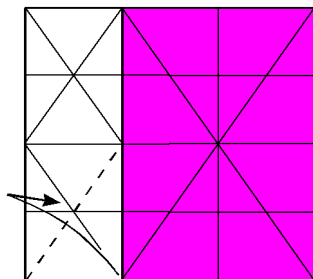
15. Fold the top right corner of the front layer inwards as shown, making sure the crease is formed accurately between the two points marked with circles.

16



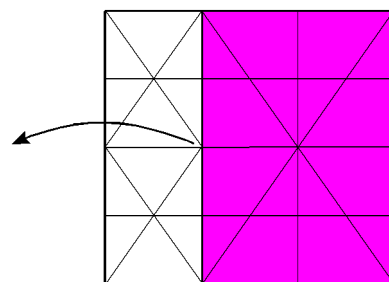
16. Unfold.

17



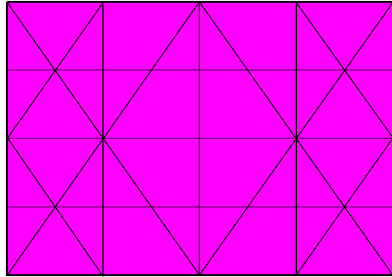
17. Fold the bottom right corner of the front layer outwards in a similar way, then unfold.

18



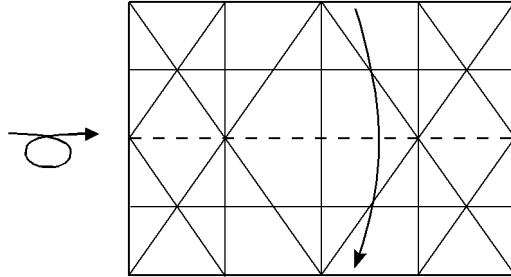
18. Open out, then repeat steps 14 through 17 on the other half of the paper.

19



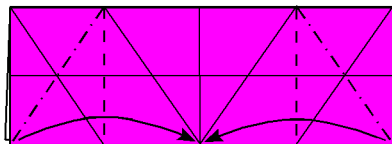
19. The result should look like this. Check you have made all the creases shown then turn over sideways.

20



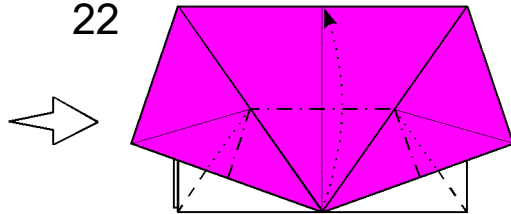
20. Fold in half downwards, reversing the direction of the existing crease.

21



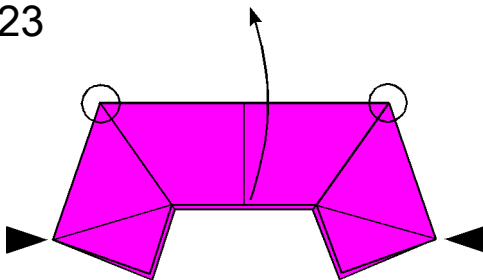
21. Fold the bottom left and right corners of the front layer into the centre. Make the same folds in the back layer at the same time so that if you were to turn the paper over it would look exactly the same at the back as at the front.

22



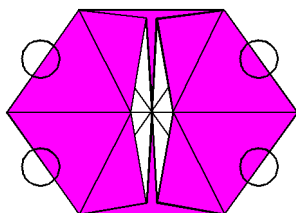
22. Fold the bottom edge of the front layers backwards inside the other layers and flatten to look like picture 18. Make the same folds in the back layer at the same time so that if you were to turn the paper over it would look exactly the same at the back as at the front.

23



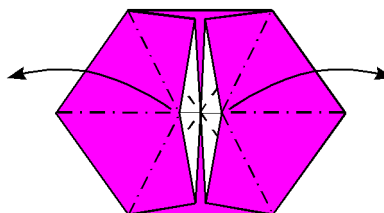
23. The result should look like this. Make sure all the folds lie flat inside the corners marked with circles. Open the bottom edge of the front layers out upwards and squash to look like picture 19.

24



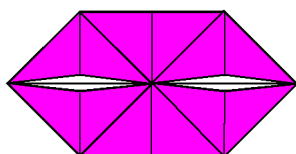
24. Make new creases along the edges marked with circles by flattening the edges firmly.

25



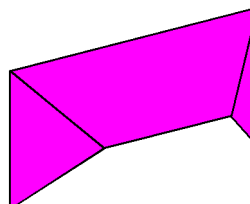
25. Open out the centres of the front layers as shown. The module will become three-dimensional as you do this.

26



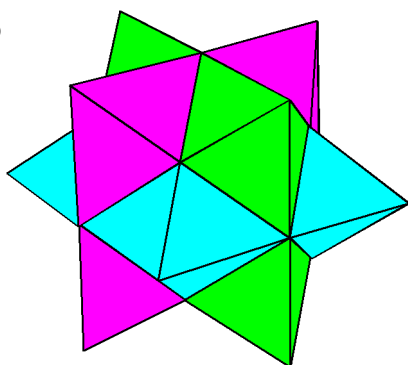
26. This is what the finished module should look like.

27



27. Make six, two in each of three contrasting but complementary colours.

28



28. Six modules will go together like this to form the finished Stellated Rhombic Dodecahedron. There are no tabs and no pockets. The modules wrap around each other to hold each other in place.

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