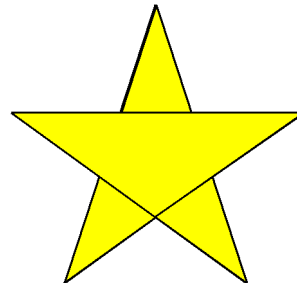


3-Piece Pentagram

Designed by David Mitchell

This is the simplest way I know to make an approximation of a Pentagram from folded paper. These diagrams show you how to fold the three pieces you will need from either silver rectangles or squares.

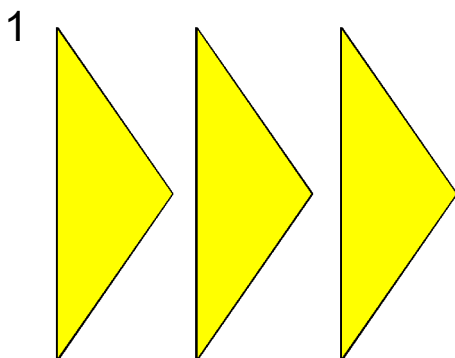


Silver rectangles have edges in the proportion $1:\sqrt{2}$. DIN paper sizes such as A4, A5 etc are good enough approximations of silver rectangles for practical paperfolding purposes.

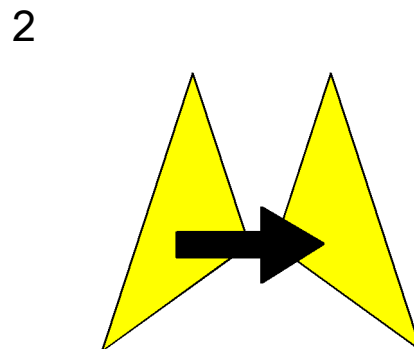
The way in which the three pieces are laid together to create the Pentagram is not intuitively obvious and this design can therefore be used as a simple puzzle. 'Put these three pieces together to create an unexpected geometric shape ...'.

Each piece of the Pentagram can also be used as a Golden Proportion Tile. For those who are interested there is a separate pdf about this type of origami tile which gives details of the approximated angles.

The 3-piece Pentagram was designed in 1999.

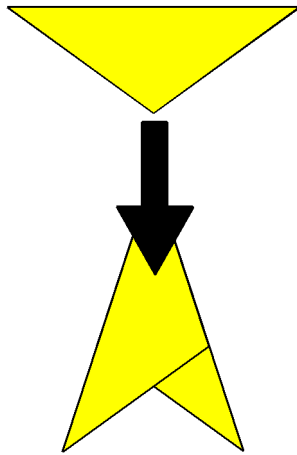


1. Make three identical pieces from either silver rectangles or squares following the instructions on pages 2 to 6.



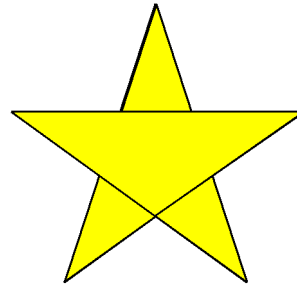
2. Begin to form the Pentagram by laying two pieces together like this.

3



3. The third piece is added like this.

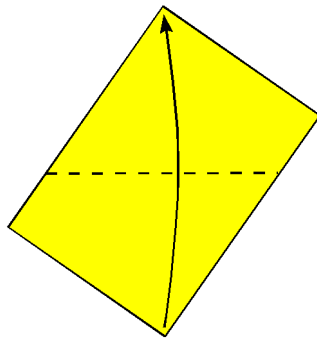
4



4. The 3-piece Pentagram is finished. The tiles can be glued together if required.

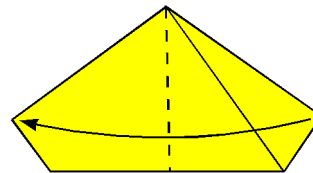
Folding Pentagram pieces from silver rectangles

5



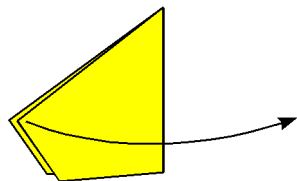
5. Fold in half corner to opposite corner like this.

6



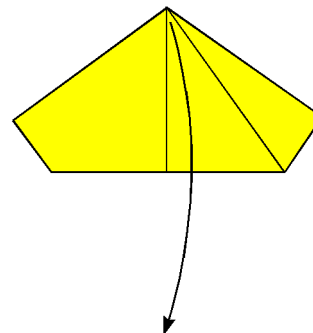
6. Fold in half sideways.

7



7. Open out the fold made in step 6.

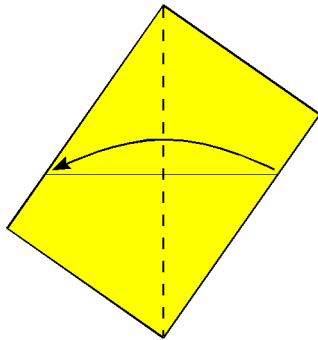
8



8. Open out completely.

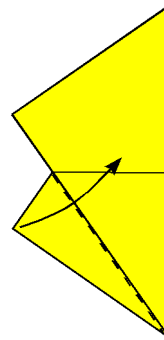
2

9



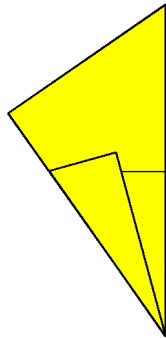
9. Fold in half sideways using the existing crease. Both the top and bottom corners should become sharp points.

10



10. Fold the bottom left corner inwards around the edge of the front layer as far as it will go. Make sure the bottom point remains sharp.

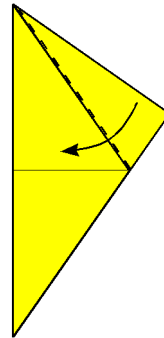
11



11. Turn over sideways.

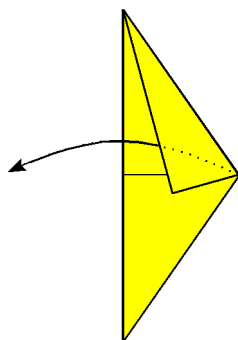


12



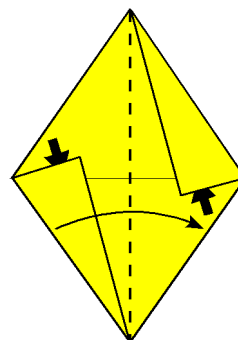
12. Repeat fold 10 on the top right corner.

13



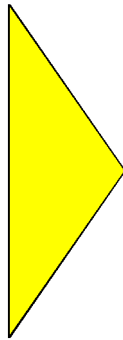
13. Open out the middle layers to the left.

14



14. Fold in half sideways, interlocking the two front flaps as you do so.

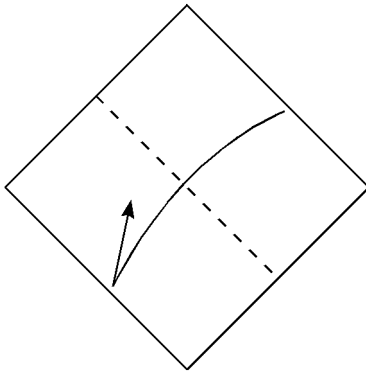
15



15. The first piece of the Pentagram is finished. Make three and assemble following the instructions in steps 2 and 3.

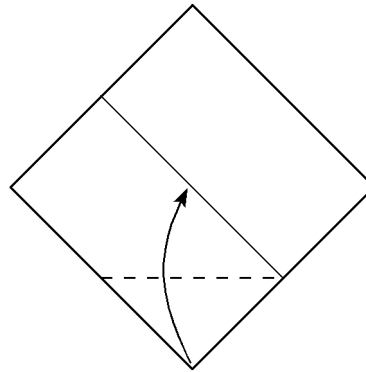
Folding Pentagram pieces from squares

16



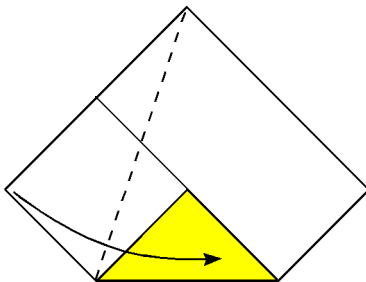
16. Fold in half edge to edge, then unfold.

17



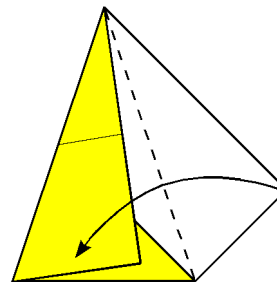
17. Fold the bottom corner to the centre.

18



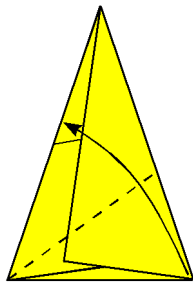
18. Fold the left hand corner inwards like this. Make sure the top point and the bottom left corner both remain sharp.

19



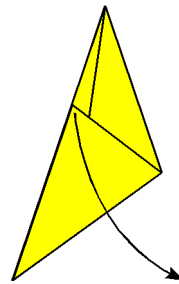
19. Repeat fold 18 on the right hand side of the design.

20



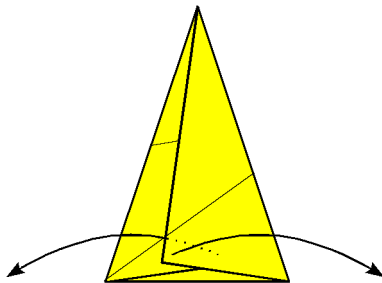
20. Fold the bottom edge onto the sloping left hand edge.

21



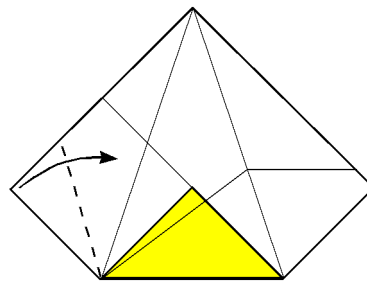
21. Open out the fold made in step 64.

22



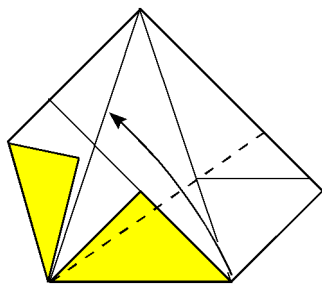
22. Open out the front two flaps.

23



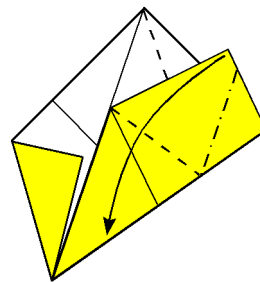
23. Fold the left hand corner inwards like this.

24



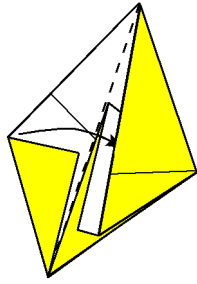
24. Fold the bottom right hand corner inwards, using, and extending, the crease made in step 20.

25



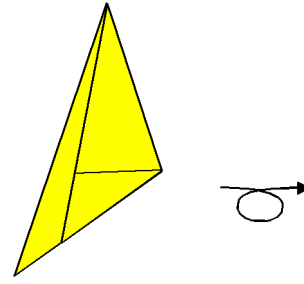
25. Make the fold shown using the existing crease then flatten the paper so that it looks like picture 26.

26



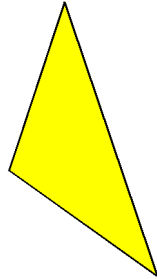
69. Fold the left hand flap inwards using the existing crease and tuck the left hand corner into the pocket underneath the front flap.

70



70. Make sure all the layers lie flat then turn over sideways.

71



71. The first Pentagram piece is finished. Make three and assemble following the instructions in steps 2 and 3.

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