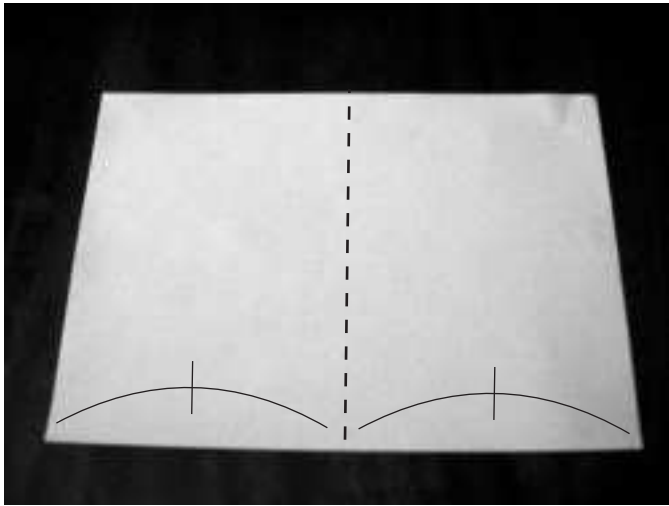
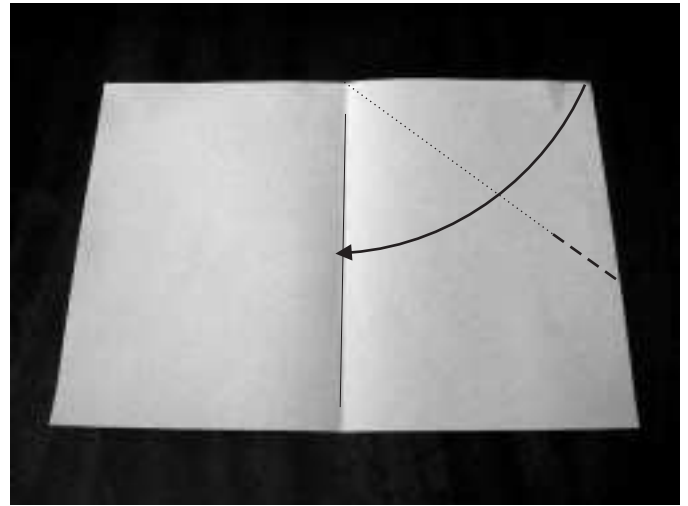


# Icosahedral Twist Box



Start with a piece of letter paper. A4 or American letter paper, it doesn't matter. Valley fold down the middle and return.



Fold the corner to the crease as shown, just so as to make a mark on the right edge.

1

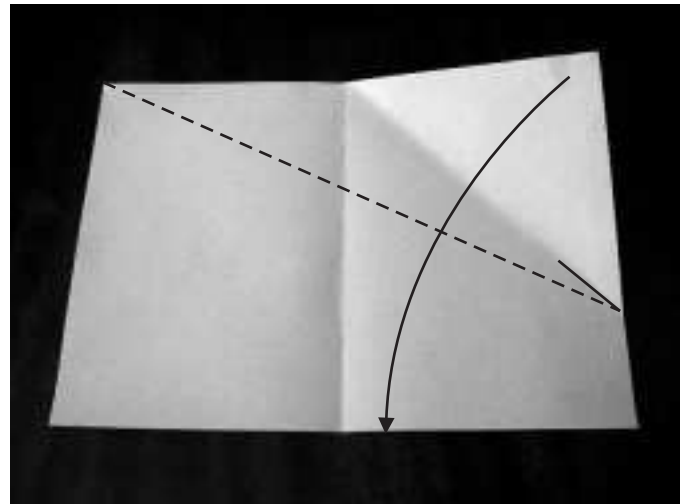
2

3

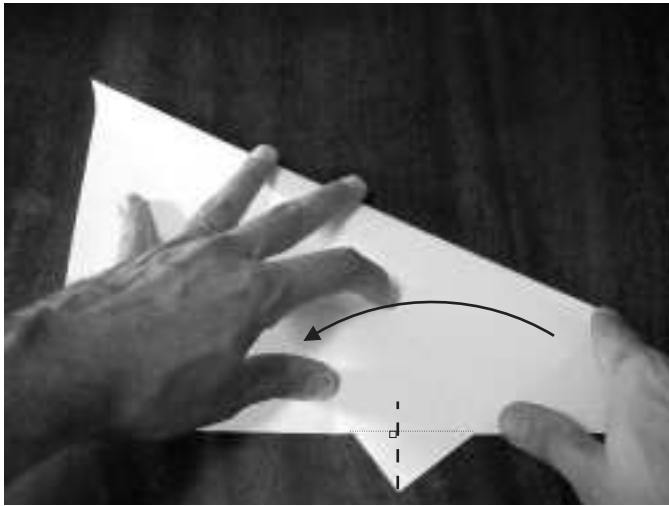
4



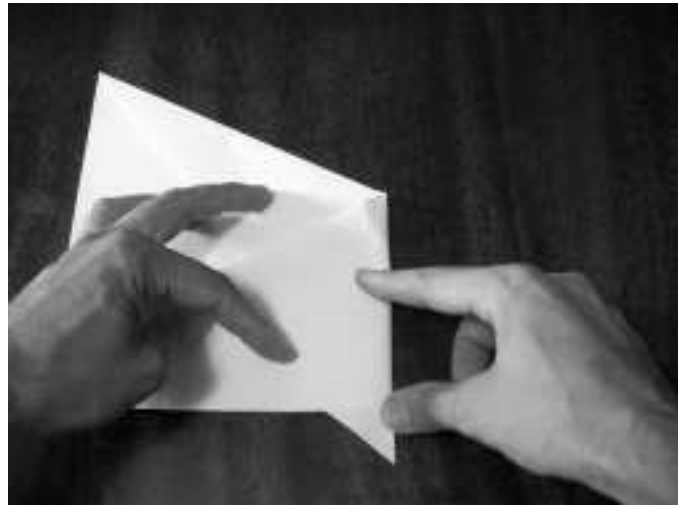
This way.



Note the mark. Make a valley from the upper left corner to that mark.



Fold the right side in to make a mark on the bottom edge. Note that the valley fold is perpendicular to the bottom edge and that the end goes through the corner.



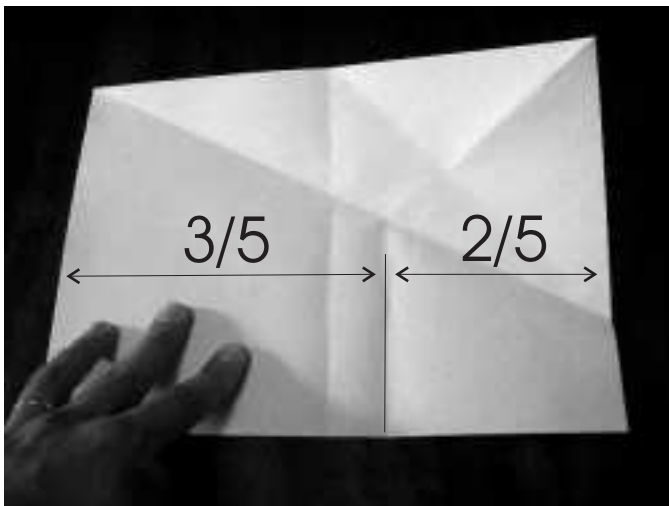
Like this and return.

5

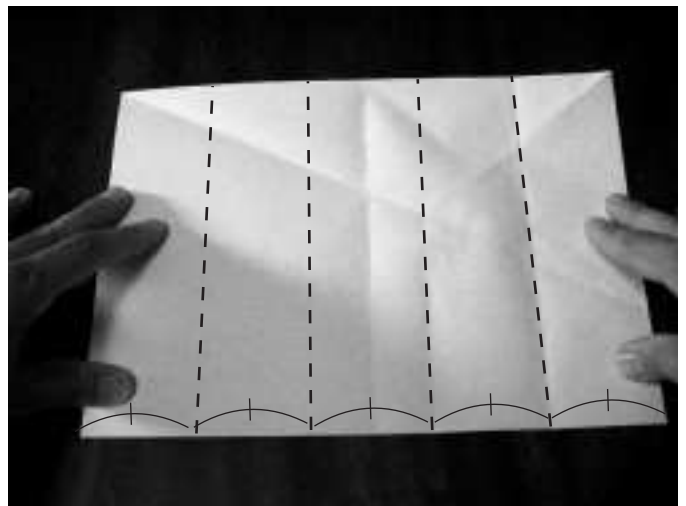
6

7

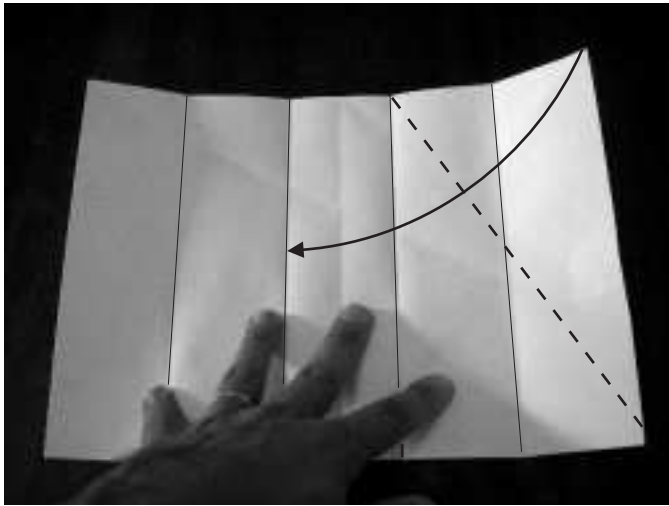
8



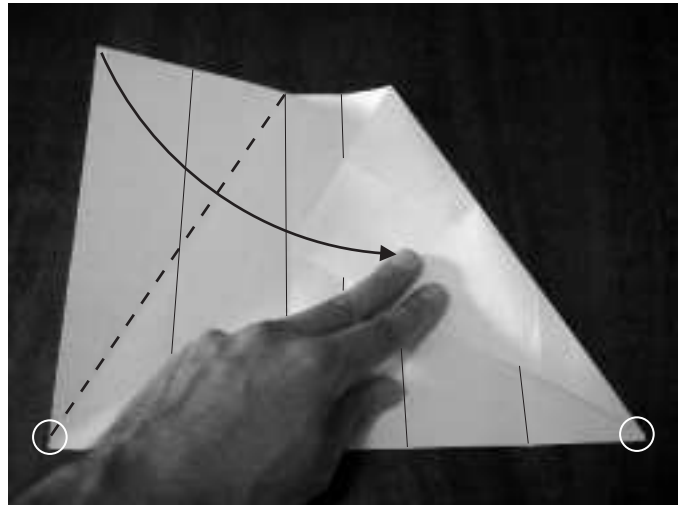
That mark is two-fifths from one side and three-fifths from the other.



Divide the paper into even fifths.

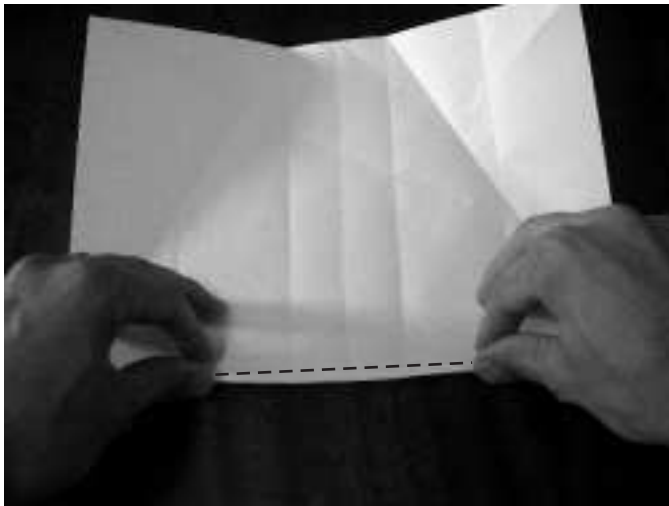


Valley fold the upper right corner to the two-fifths line. This makes a  $60^\circ$  angle.

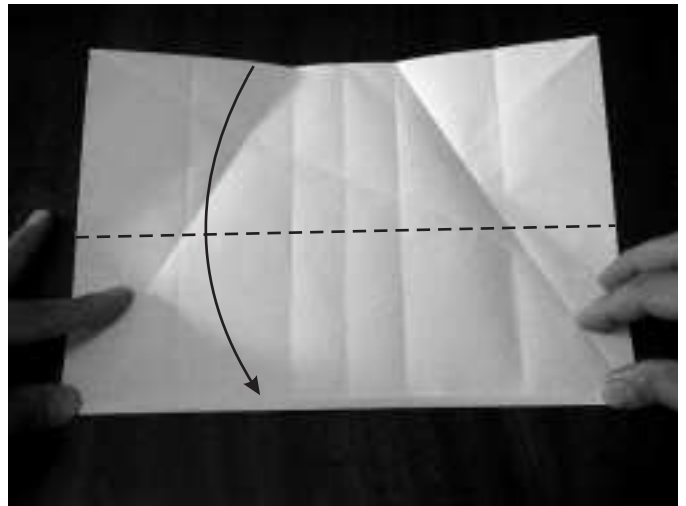


Repeat with the upper left corner. Note that the creases do not come from the bottom corners. On A4, the crease will hit the side about 4mm above the bottom edge. With American letter paper, it's about  $\frac{3}{4}$  of an inch. That's okay.

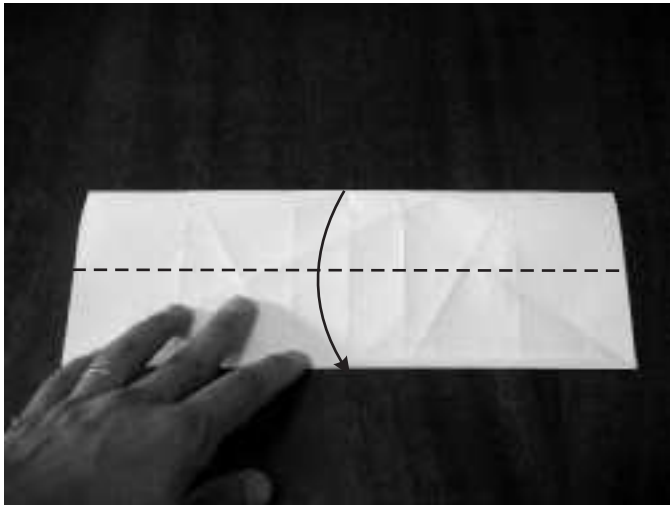
9	10
11	12



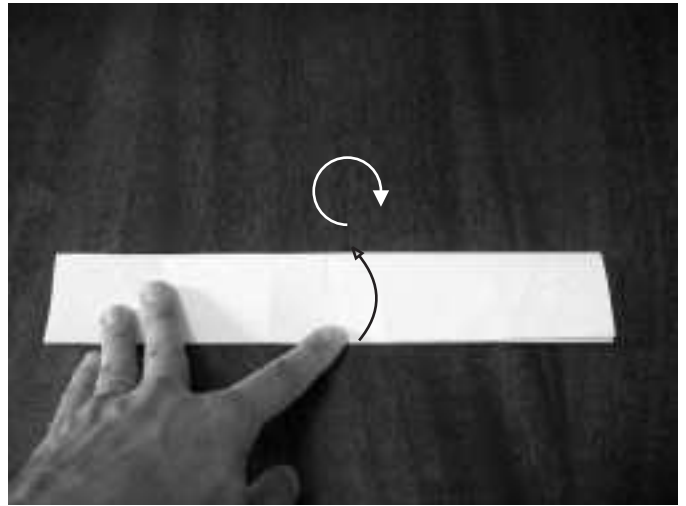
Using the intersection with the sides (cleverly obscured by my giant hands) as a mark, fold up the bottom margin.



Fold down the top edge and tuck into the bottom margin.



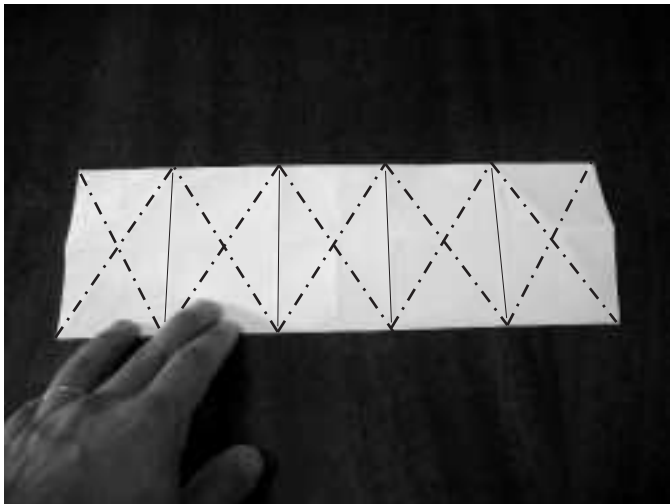
Valley fold in half.



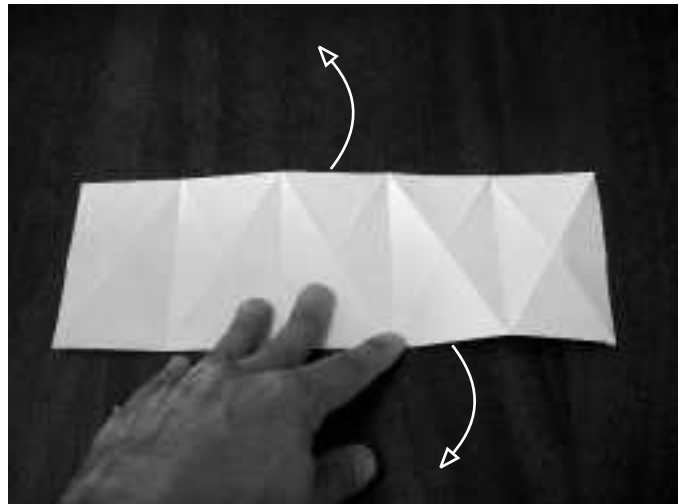
Open it back up and flip the piece over.

**13 14**

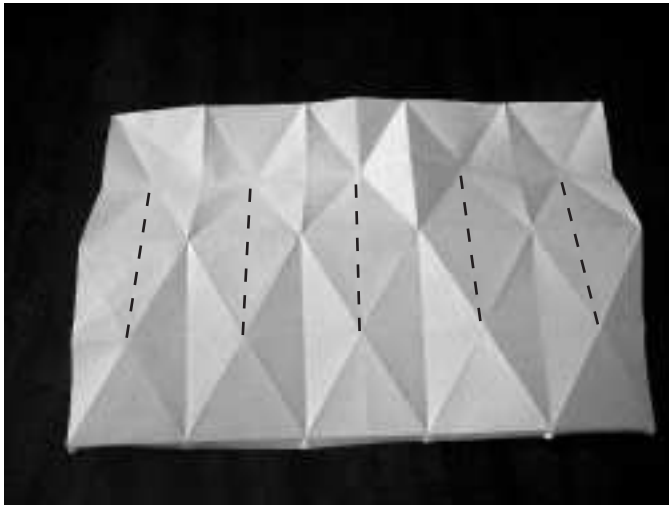
**15 16**



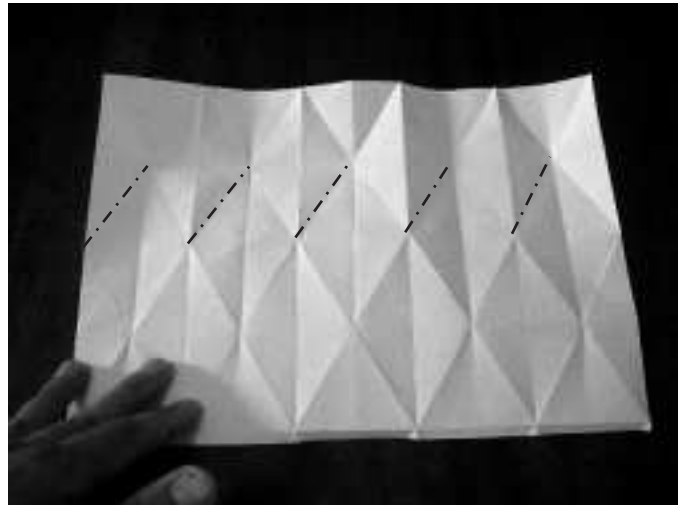
Using the fifths as guidelines, mountain fold as indicated.



Open out the flaps from underneath.



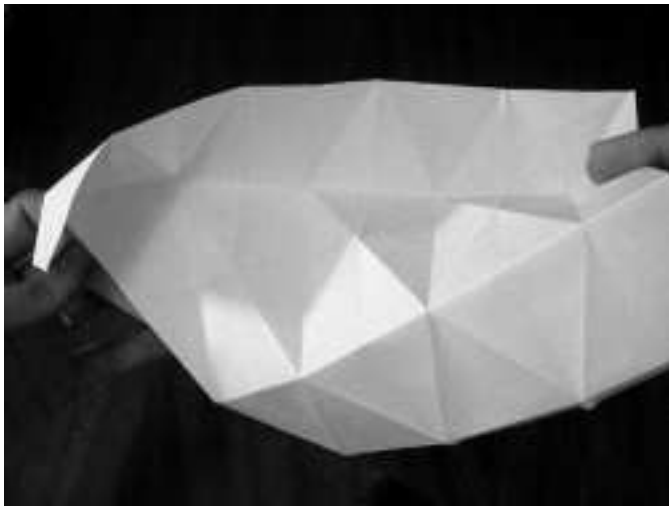
Valley fold the middle diamonds, as shown.



Turn these valley folds into mountain folds.

17 18

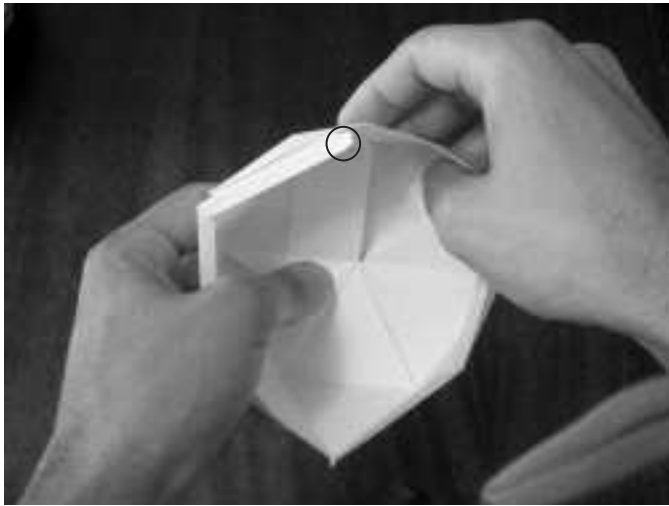
19 20



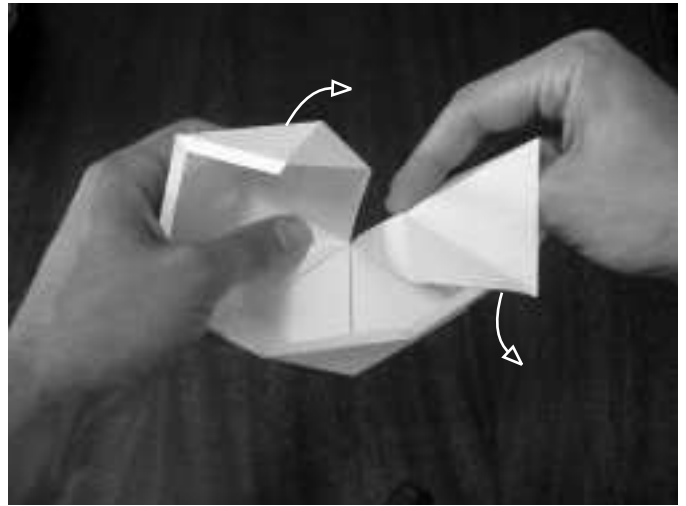
Hold the left and right edges near the middle.  
Twist the right edge **away** from you and the left edge **towards** you.



Collapsing *thusly*.  
That's right, I said *thusly*.



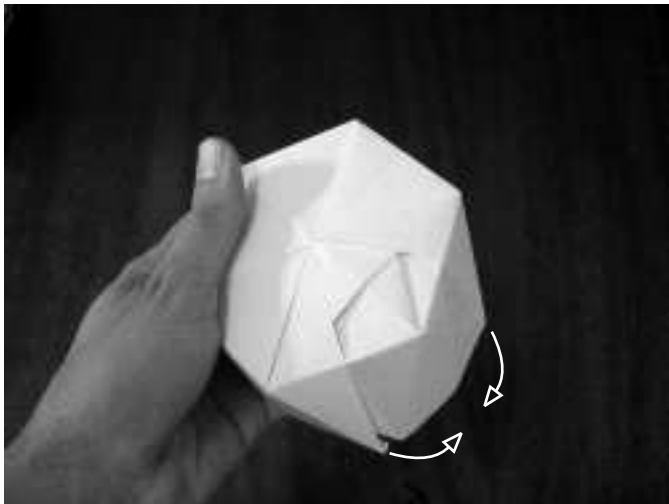
Collapsed into a hexagonal bowl shape. Note that part of the bottom margin has ended up on the inside. Can't have that.



Push the left flap away, pull the right flap in and replace.

**21 22**

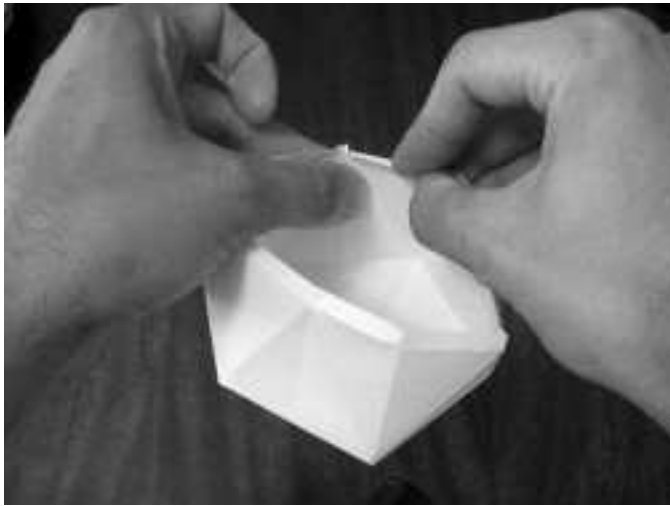
**23 24**



Flip the model over. It will look like this. You will have two edges showing. Squeeze the side of the model so that these edges come together. This will cause the top to become pentagonal and pop up.



Like this.



Fold that bottom margin in, all around, to lock the model into place.



Finished, from the bottom.

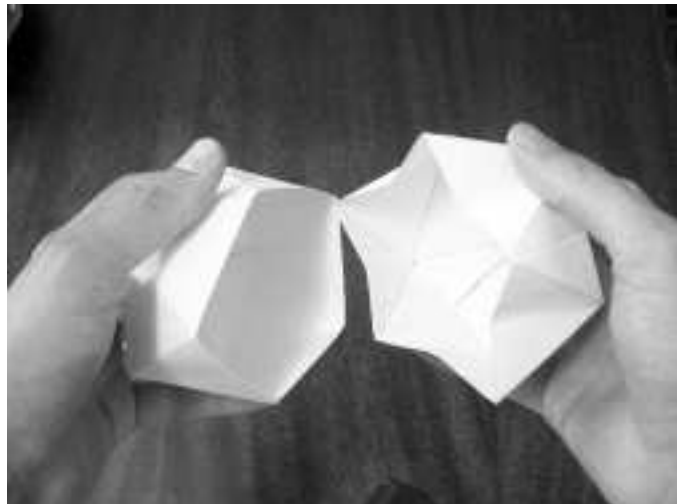
**25 26**

**27 28**

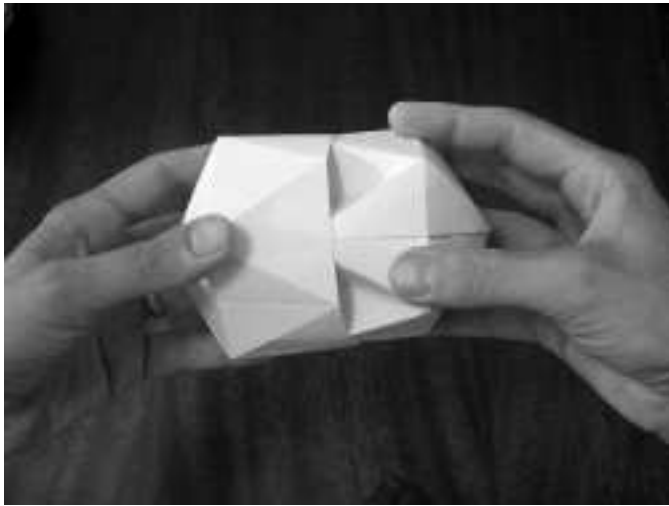


Finished, from the top.

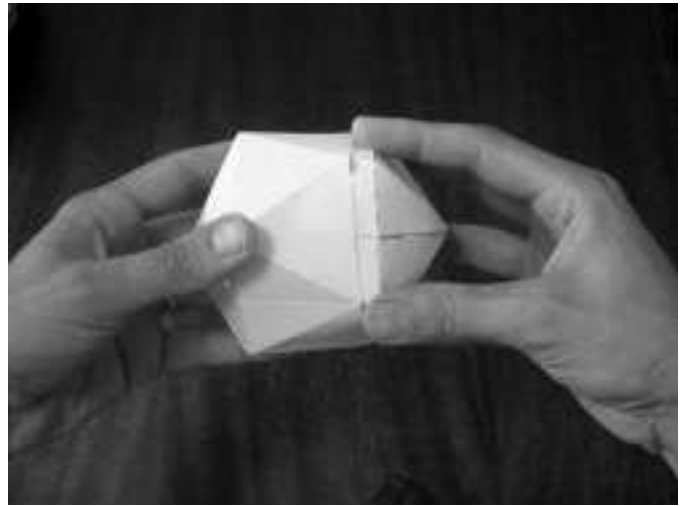
So, now that you have that down, make a second one.



Curve the bottom edges on one half and insert into the other.



Push together, gently.



Continue.

29 30

31



The Icosahedral Twist Box and these diagrams are under a Creative Commons Attribution-NonCommercial-ShareAlike-2.5 license.

That means you can fold this model, copy this document and give it away, teach this model to as many people as you care to, develop the idea into new models, and many other things you and I haven't thought of, yet.

What you can't do is make money off of it without making appropriate sacrifices upon the altar of my vanity. Unmarked twenties, preferred. And you must ask first.

Questions? You can always contact me through my website,  
<http://origami.oschene.com>  
There's an email script in the sidebar.

Philip Chapman-Bell, Northampton, MA, USA

**Open Source Origami:  
It isn't origami till you share it.**



Completed Icosahedral Twist Box.