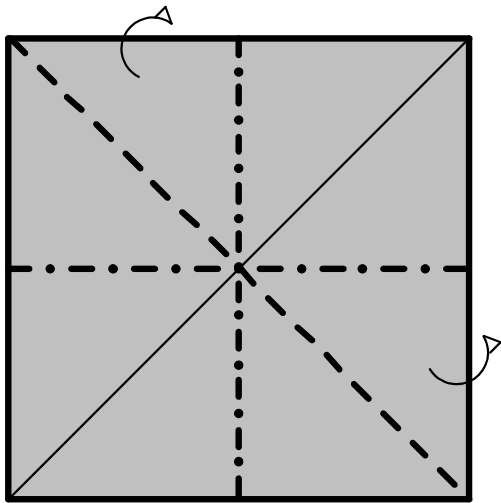


Manta Ray

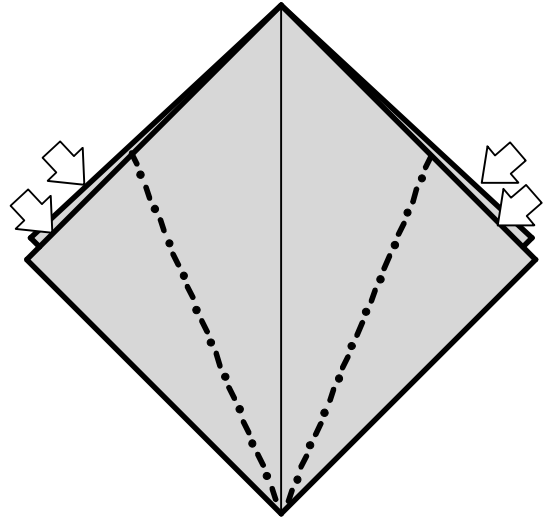
by Derek McGann

1.



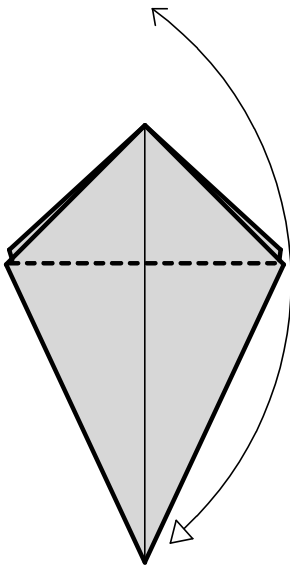
Start with the color side up. Make a preliminary fold.

2.



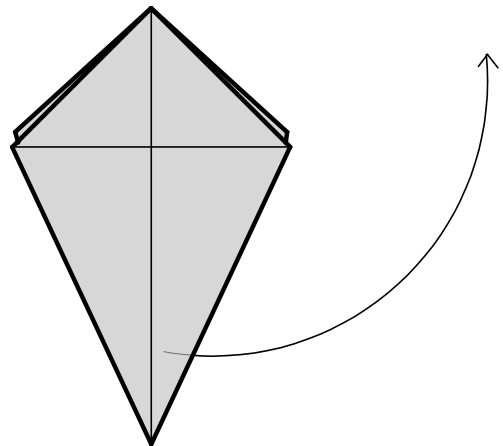
Reverse fold the edges. Repeat behind.

3.



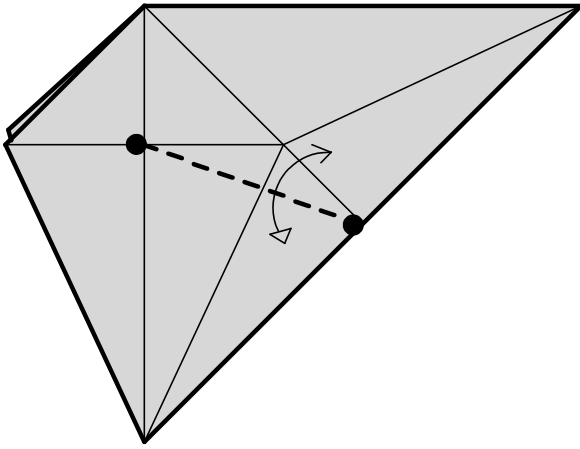
Fold and unfold. Repeat behind.

4.



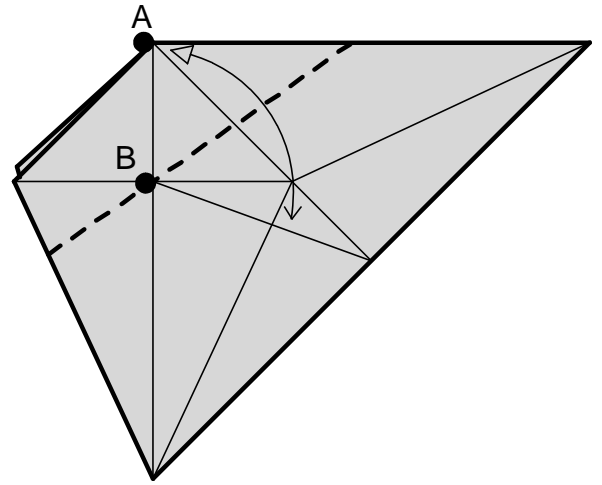
Completely unfold one side of the bird base.

5.



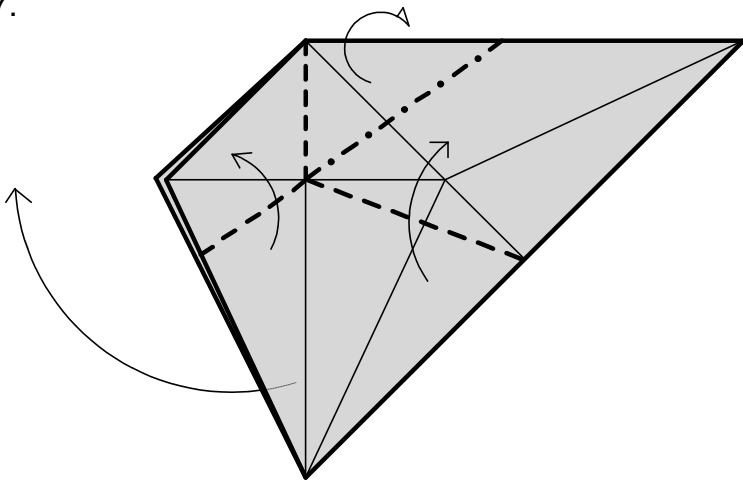
Fold and unfold through both layers.

6.



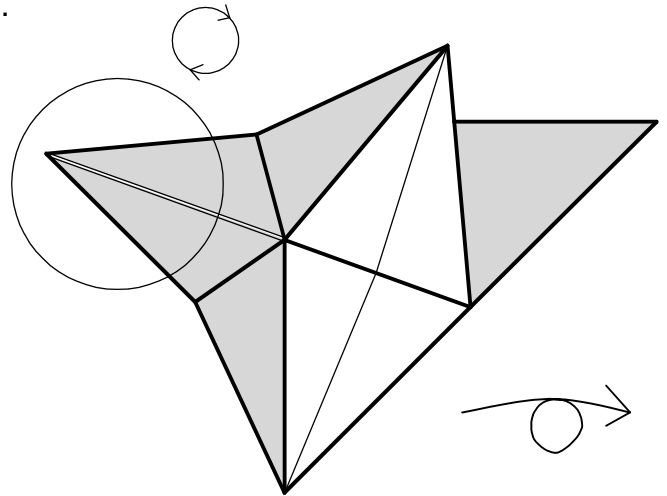
Fold point A to the crease made in step 5. This crease should run through point B. Fold through all layers.

7.

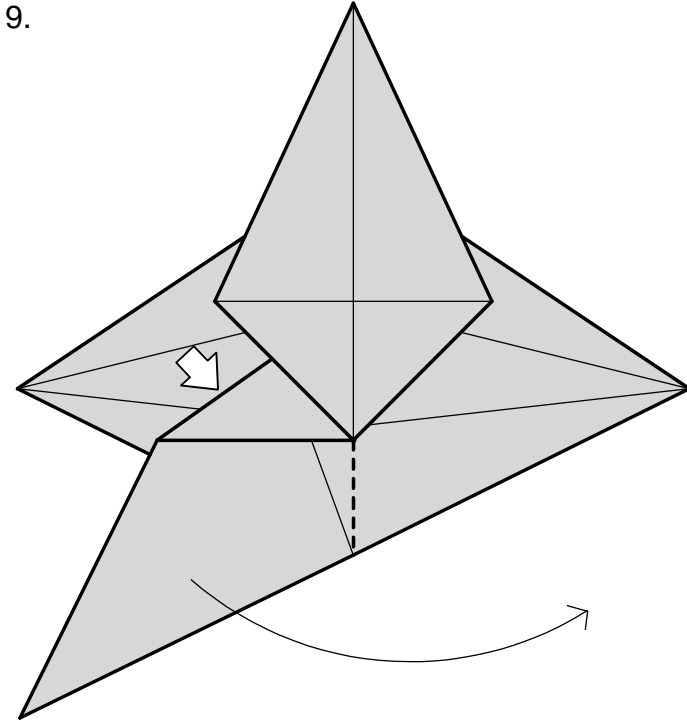


Open out the hidden flap on the left while incorporating the indicated valley and mountain folds.

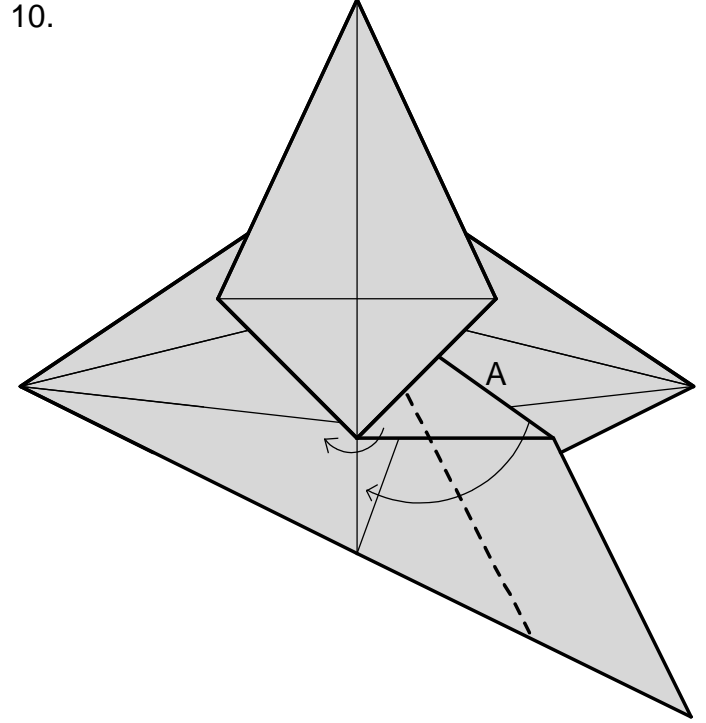
8.



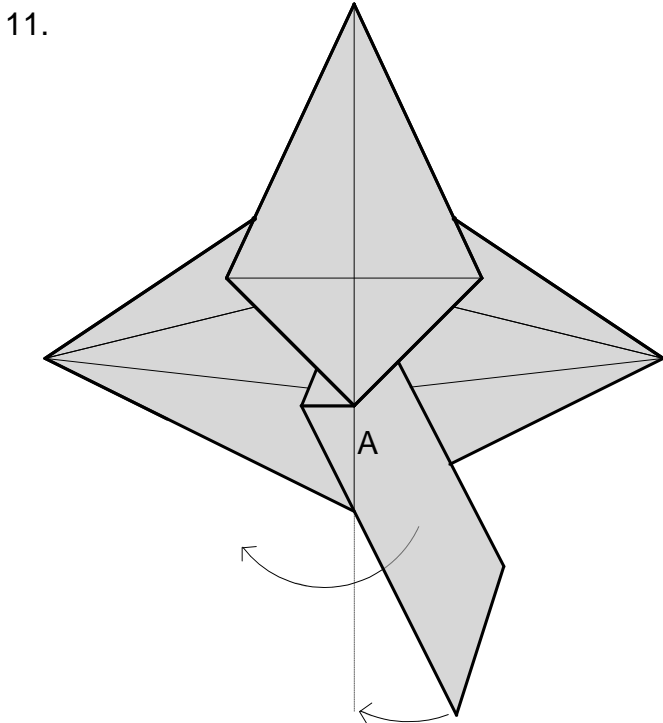
Rotate the model so that the circled flap is vertical, then turn over.



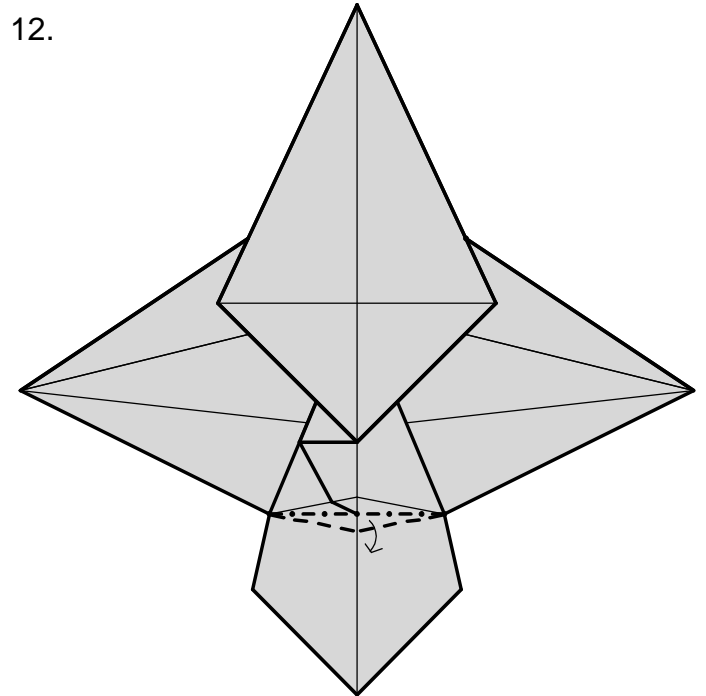
Reverse fold the flap to the right.



Valley fold edge A to the center line while swinging the top part of the flap to the left. Edge A unfolds and becomes crease A in the next step.

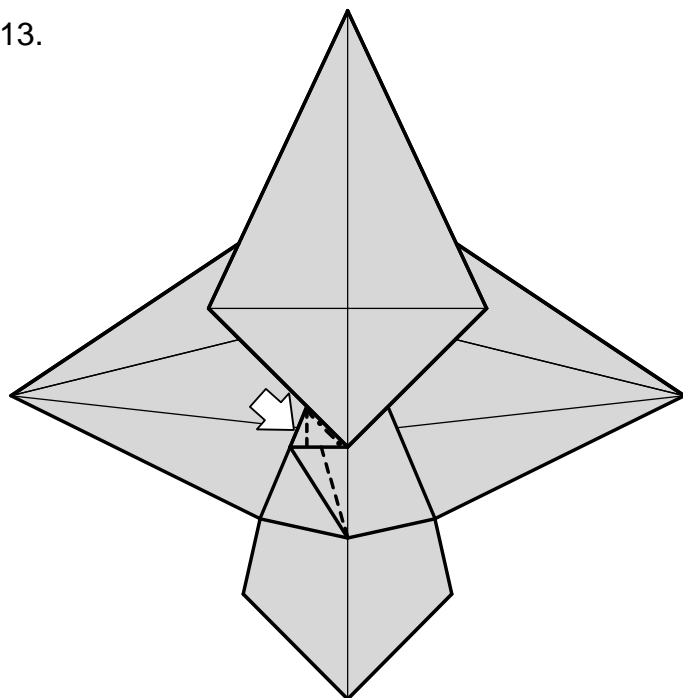


Pull out a single layer from inside the flap while adjusting the bottom point of the flap to the center line. The result will not lie flat – a pyramid will form.



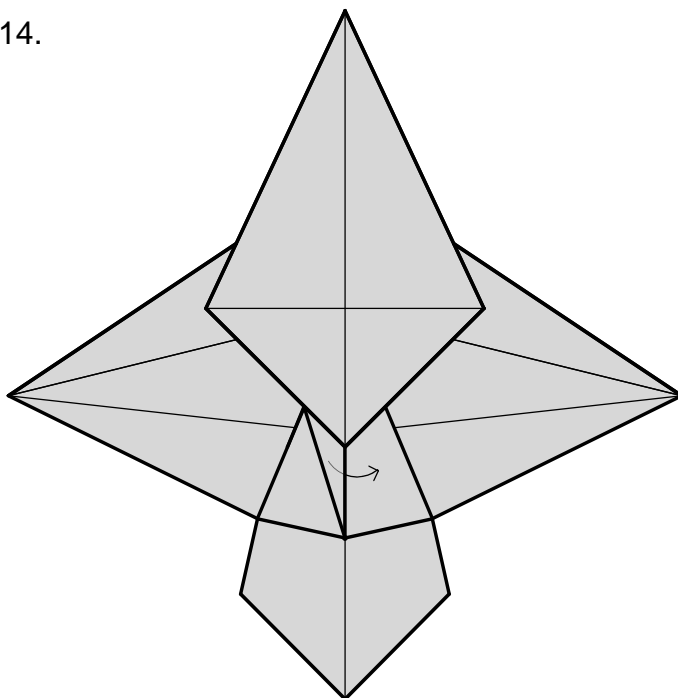
Fold the pyramid down and flatten it.

13.



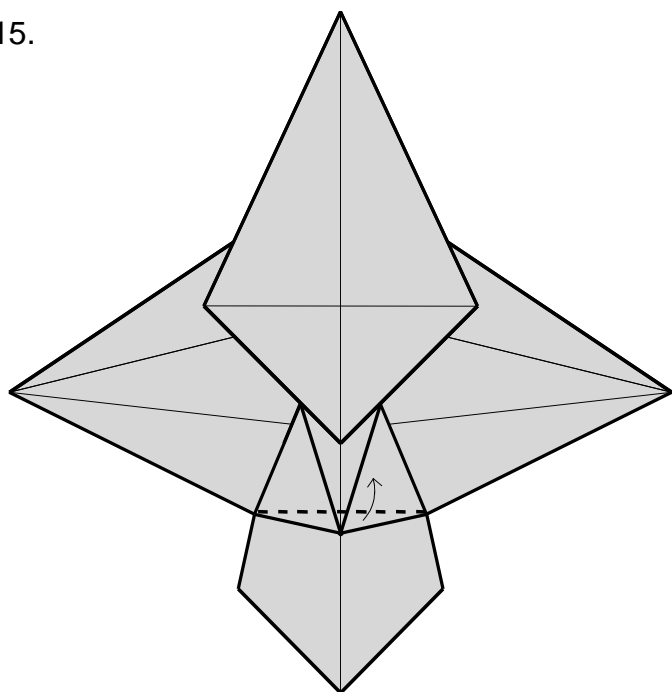
Swivel fold the edge.

14.



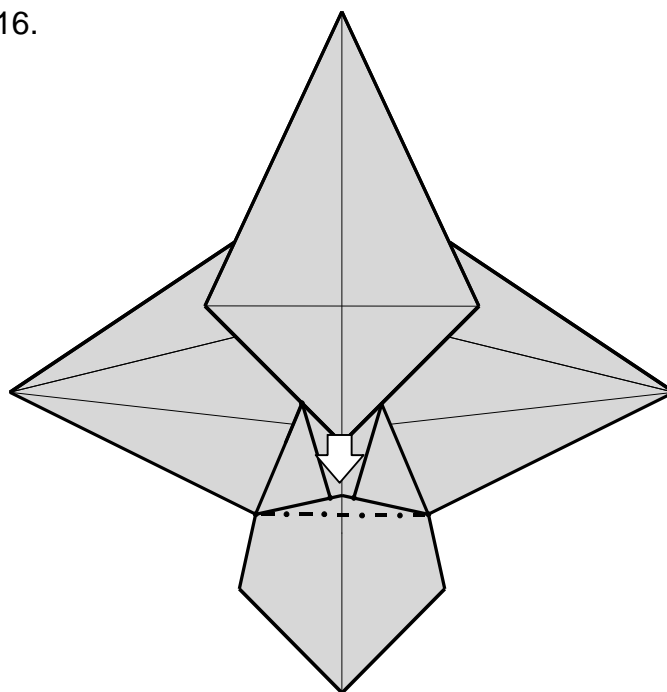
Pull out a single layer to make the model symmetrical about the vertical axis.

15.



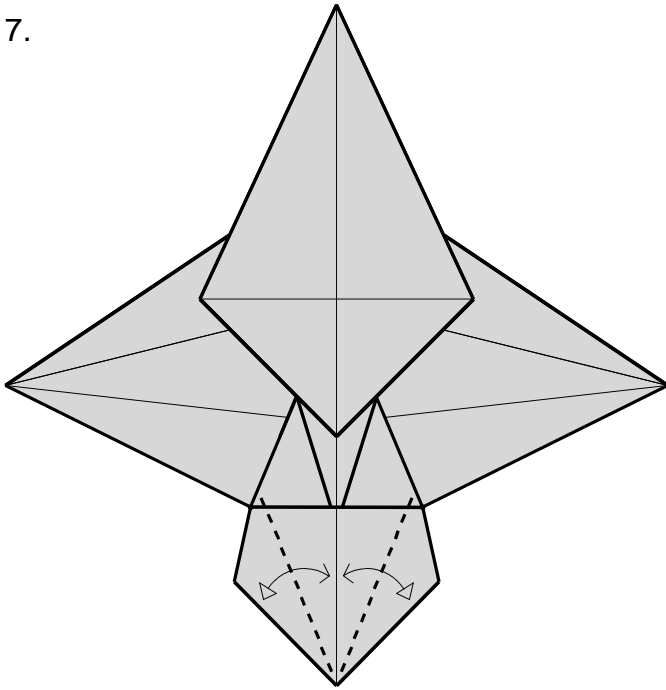
Fold the flap up.

16.



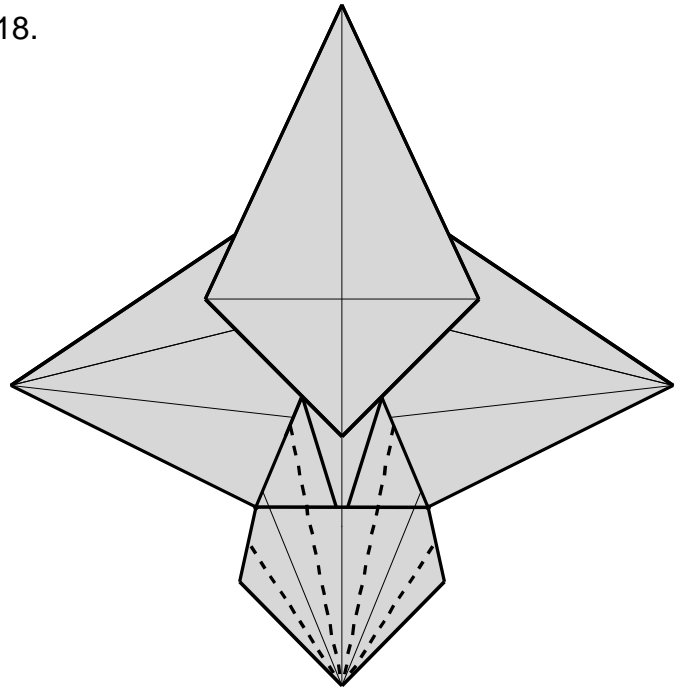
Closed sink the point.

17.



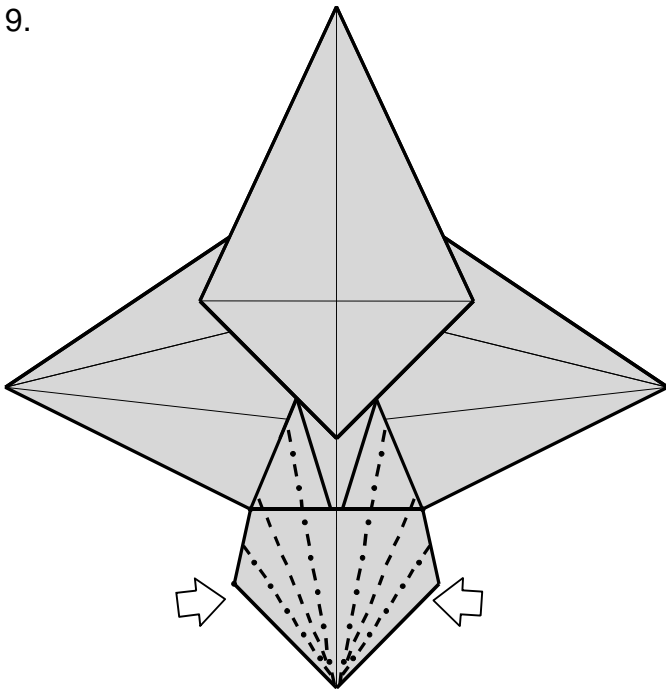
Fold and unfold to the center line.

18.



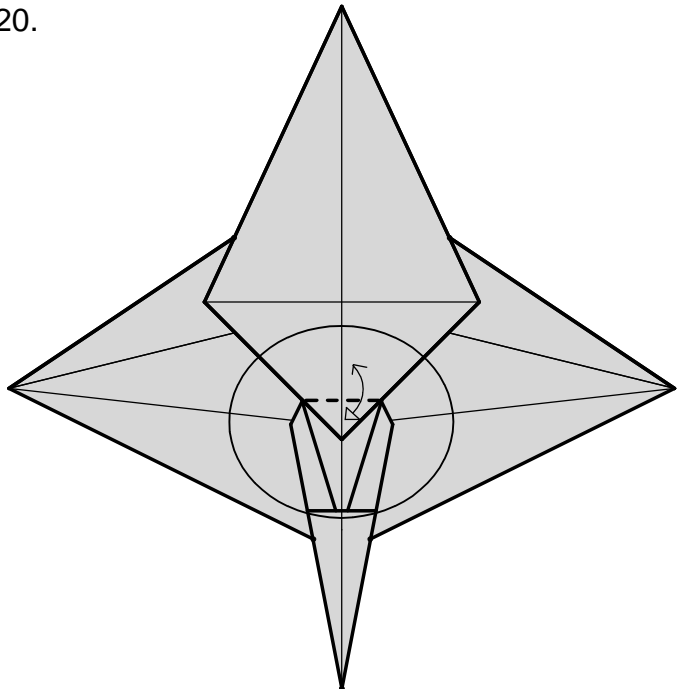
Fold and unfold the angle bisectors.

19.



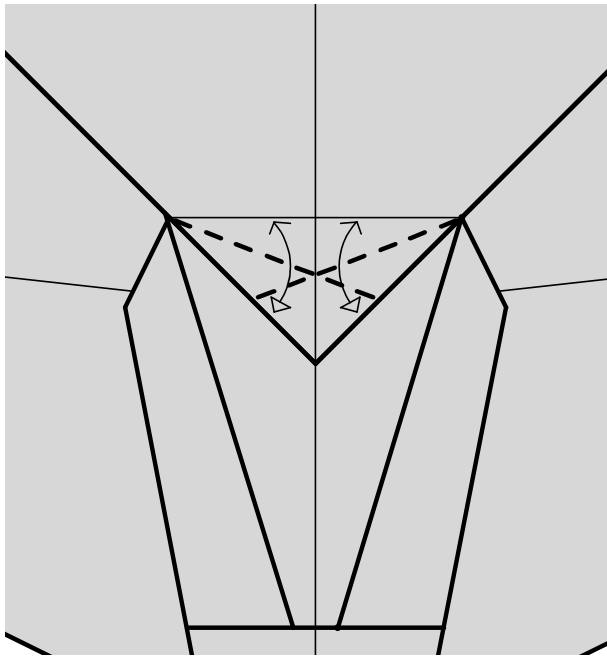
Reverse fold in and out on existing creases (this will include closed sinks at the top of each fold). Adjust the bottom layers to form two small points underneath the tail.

20.



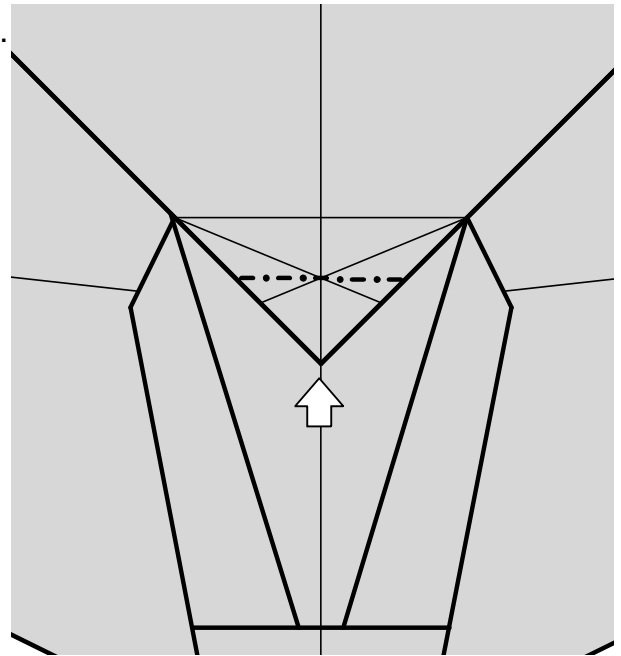
Fold and unfold. Steps 21 through 29 will focus on this small triangle.

21.



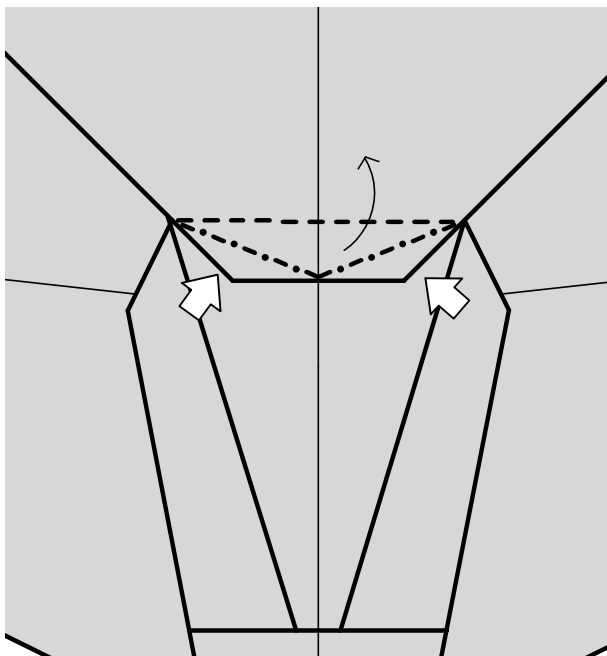
Fold and unfold.

22.



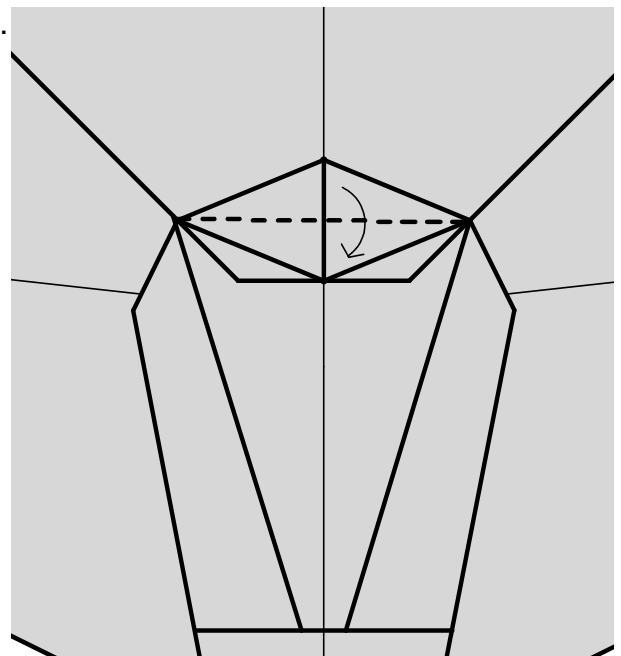
Open sink the point.

23.

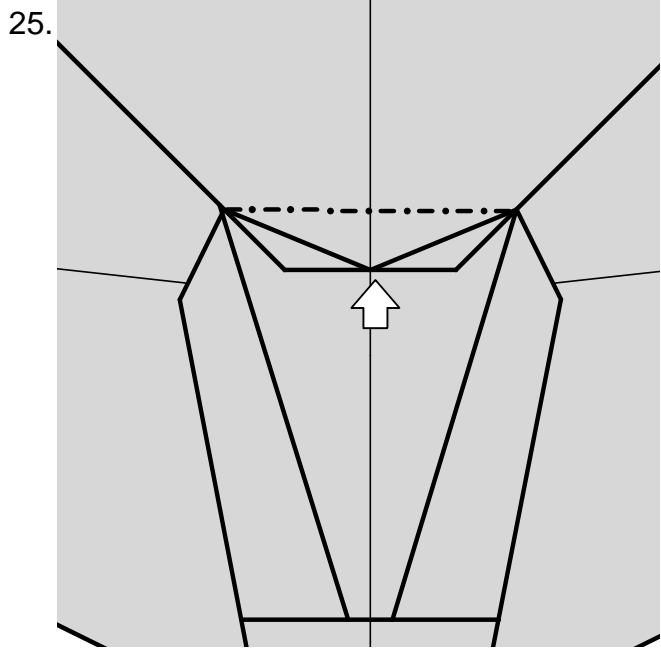


Fold a single flap up while squash folding the two corners.

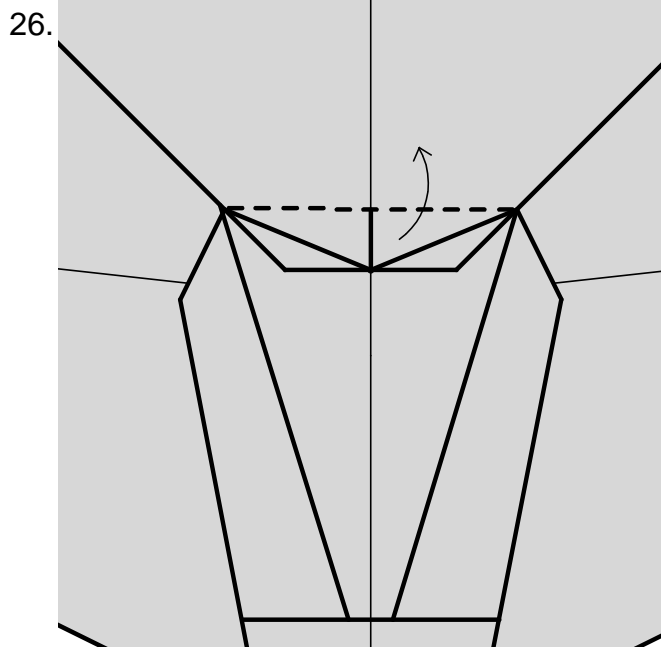
24.



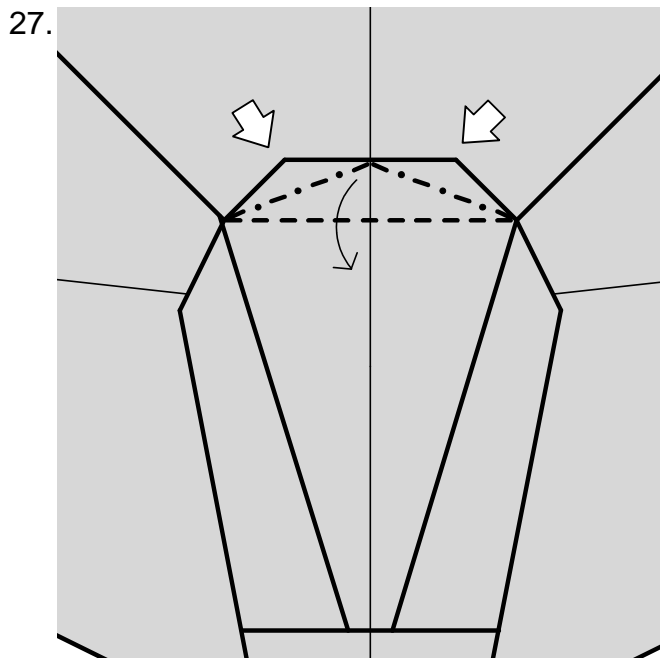
Fold the flap down.



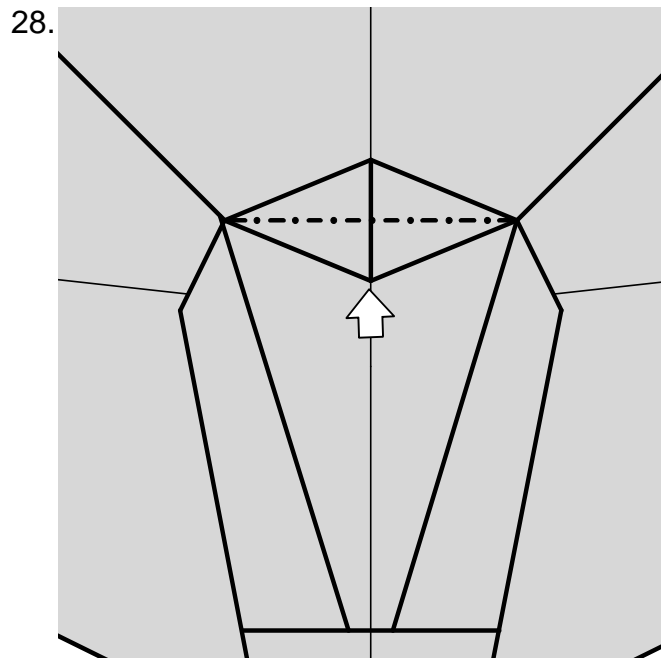
Closed sink the point.



Fold all the layers up.

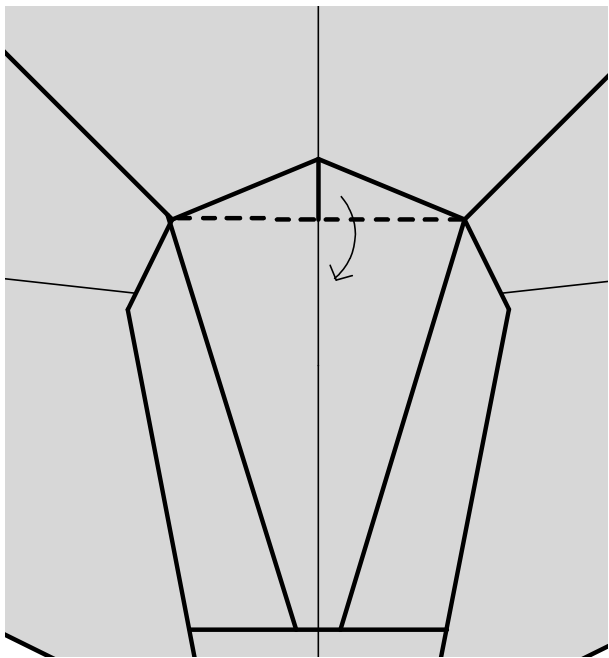


Fold a single flap down while squash folding the corners.



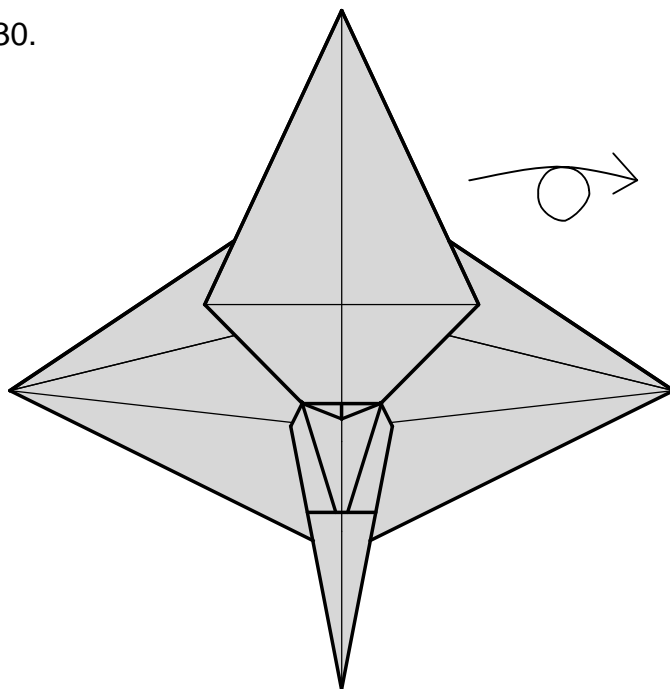
Closed sink the point.

29.



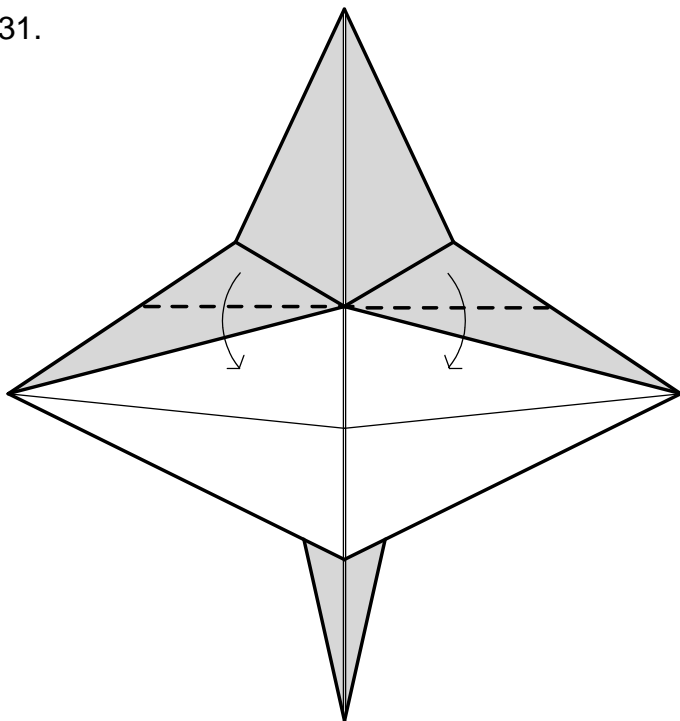
Fold the split flap down.

30.



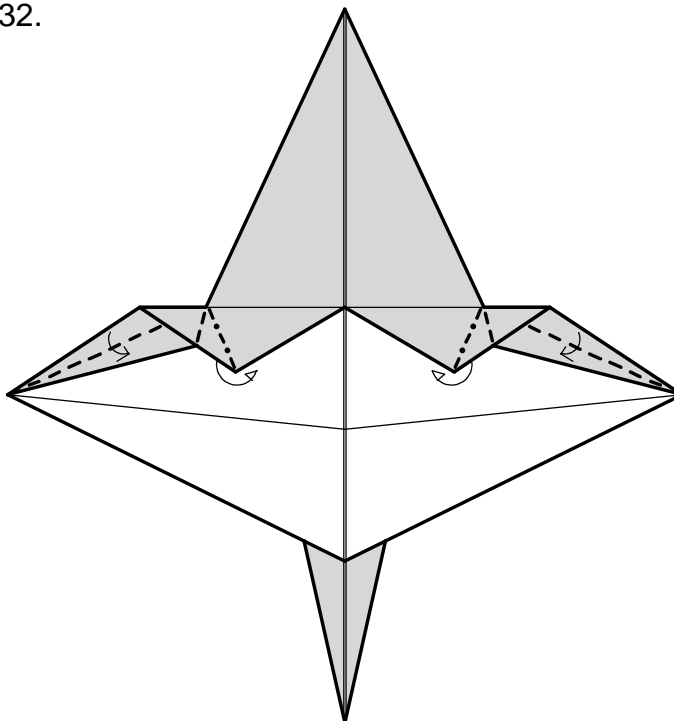
Turn over.

31.



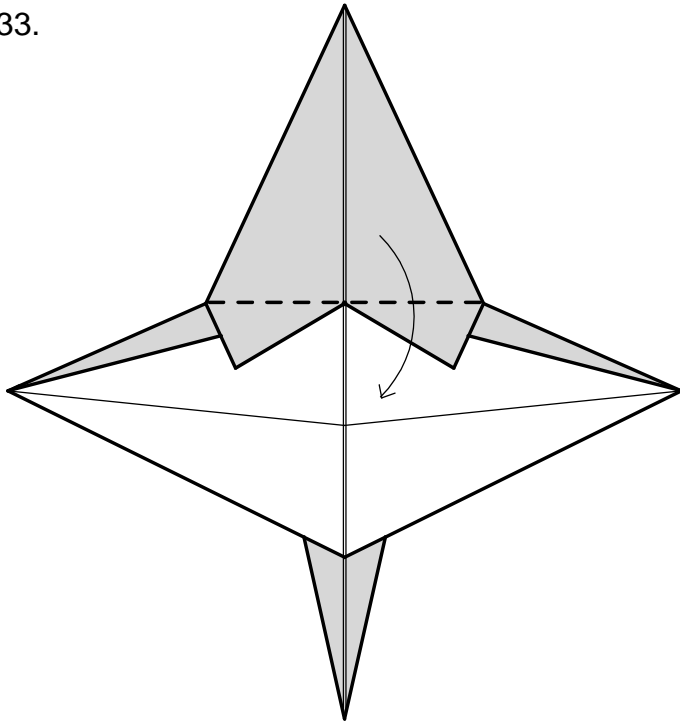
Fold the two flaps as far down as possible.

32.



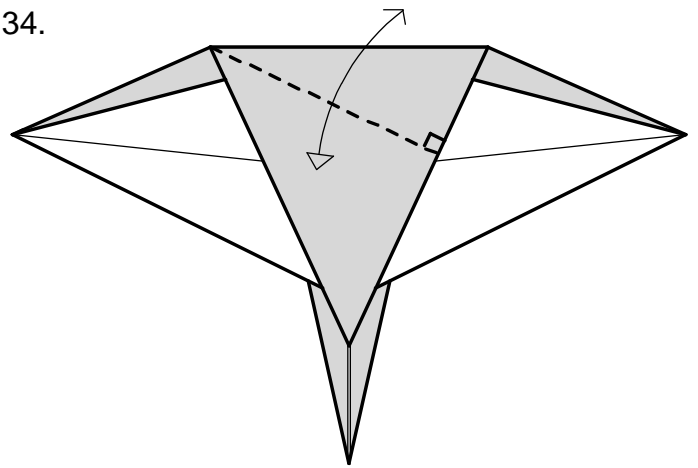
Swivel fold the top edges of the wings.

33.



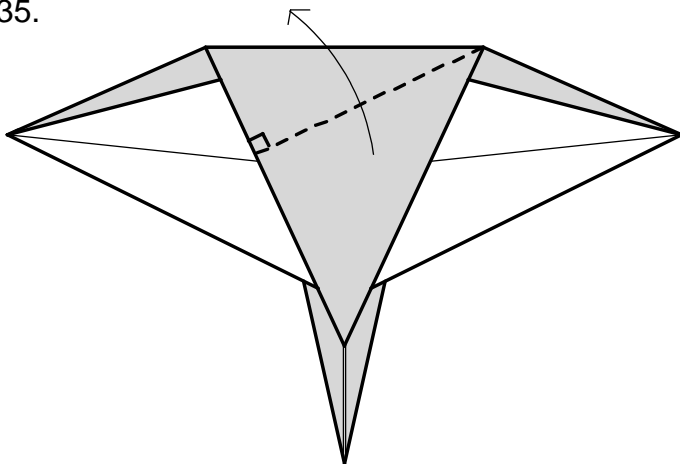
Fold the large flap down.

34.



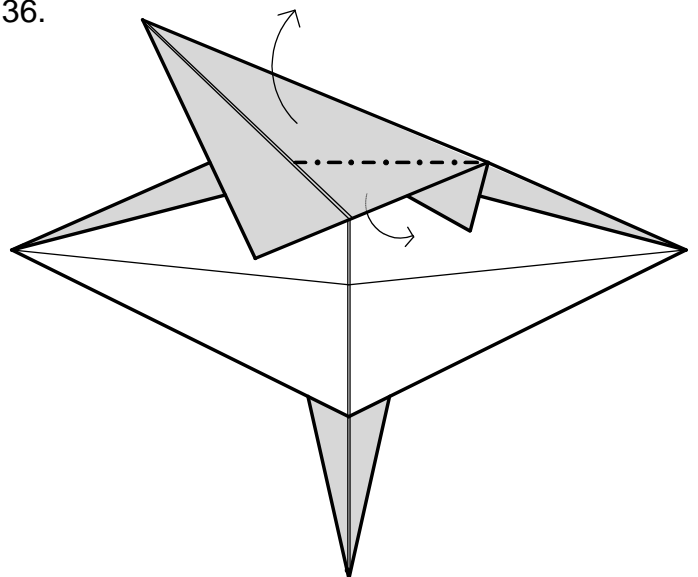
Fold and unfold.

35.

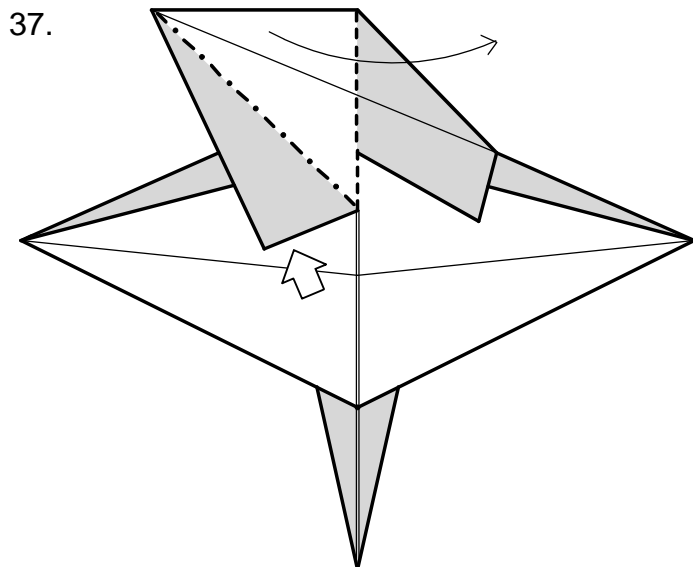


Fold.

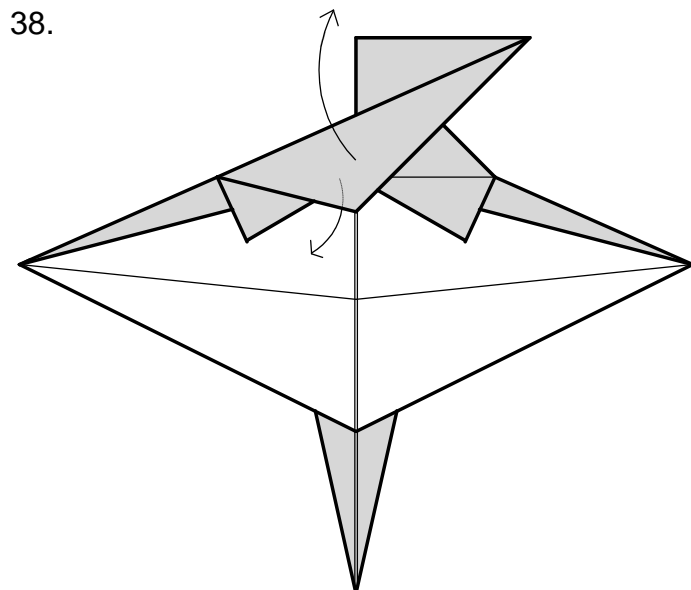
36.



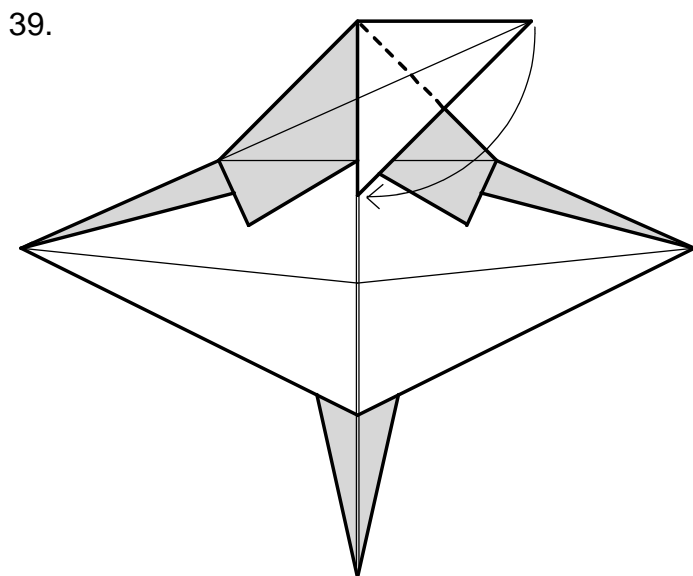
Pull a single layer out and fold it upwards. An interior corner must be brought forward to accomplish this.



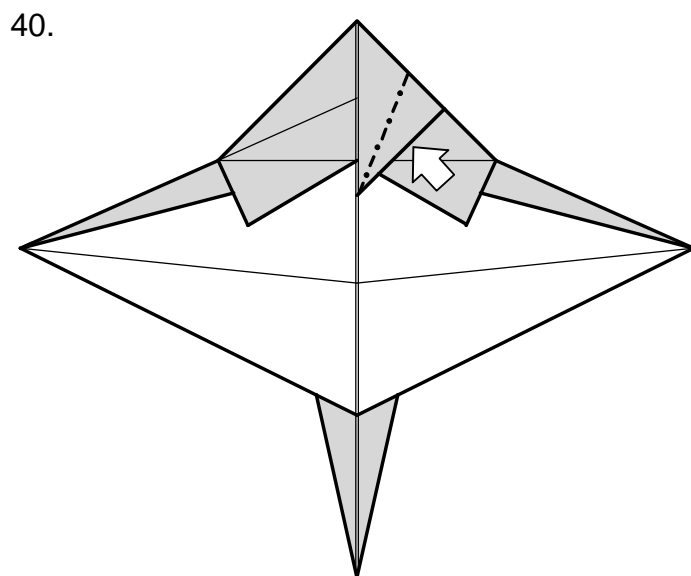
Swing the flap to the right while squash folding the edge.



Pull a single layer out and fold it upwards. An interior corner must be brought forward to accomplish this.

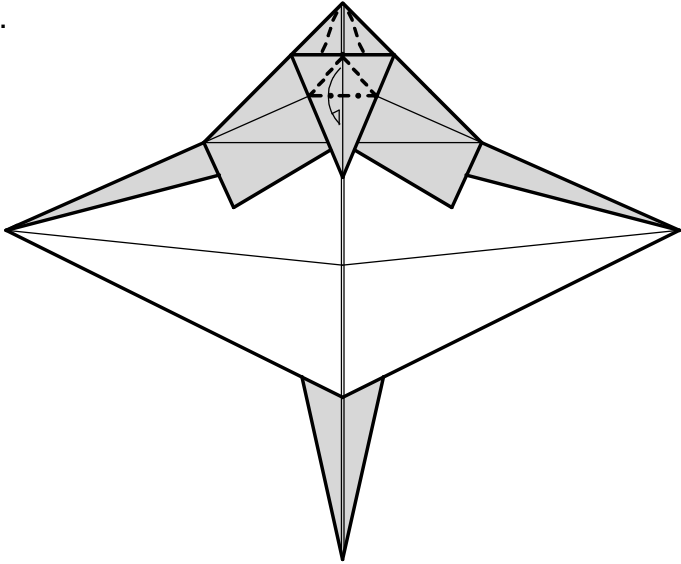


Outside reverse fold the point down.



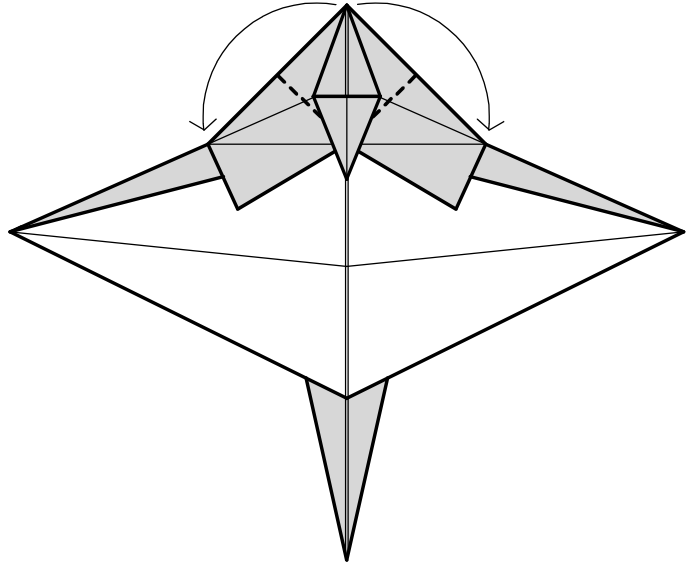
Squash fold the edge.

41.



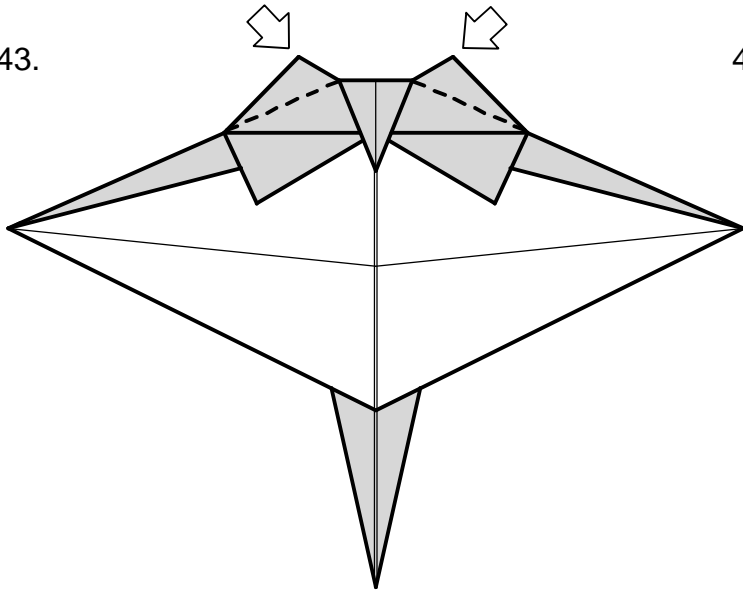
Petal fold the edge **inside** the model.

42.



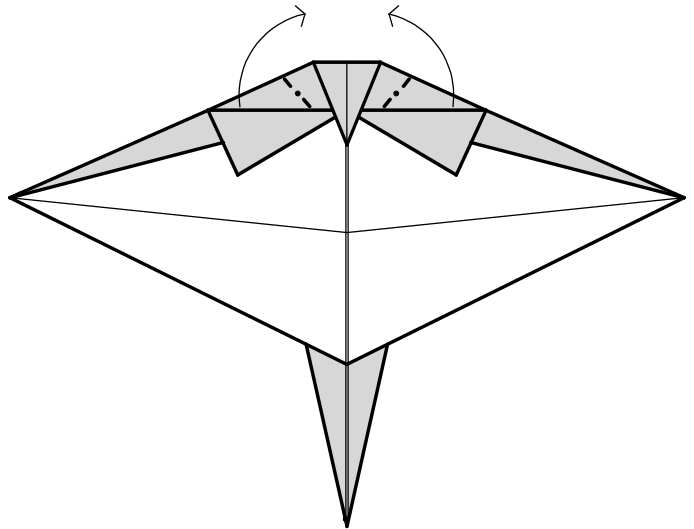
Inside reverse fold the points down.

43.



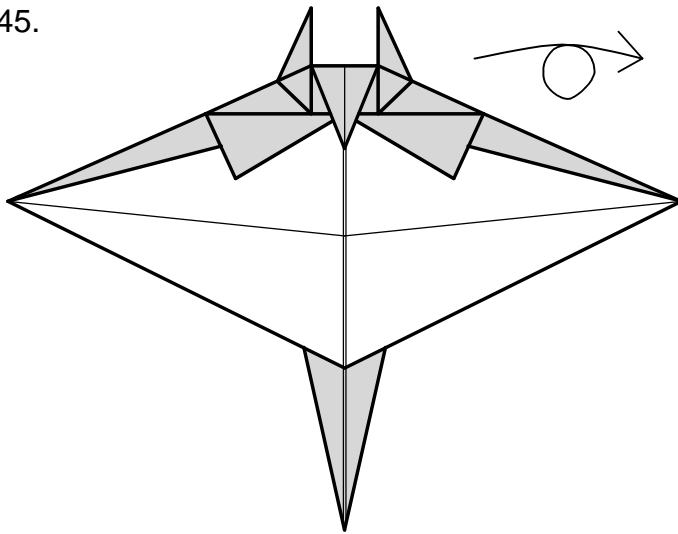
Reverse fold the corners.

44.



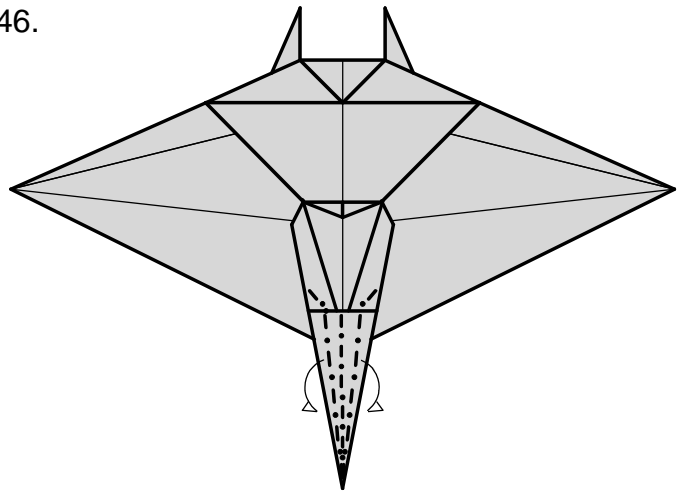
Reverse fold the points as far up as possible. The vertical edges should line up with the corners of the central triangle.

45.



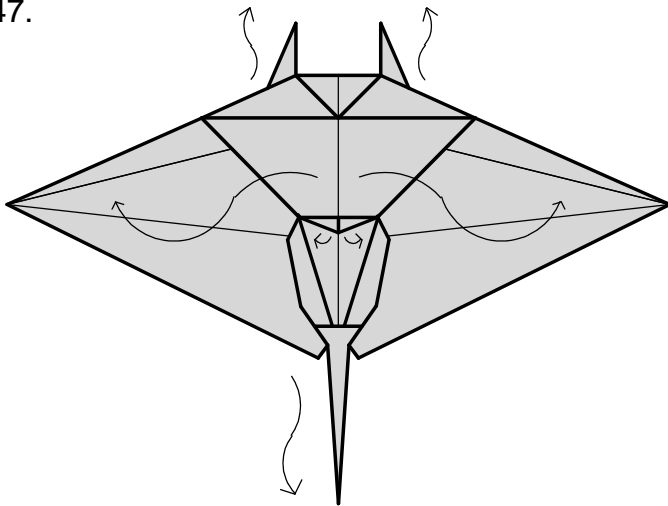
Turn over.

46.



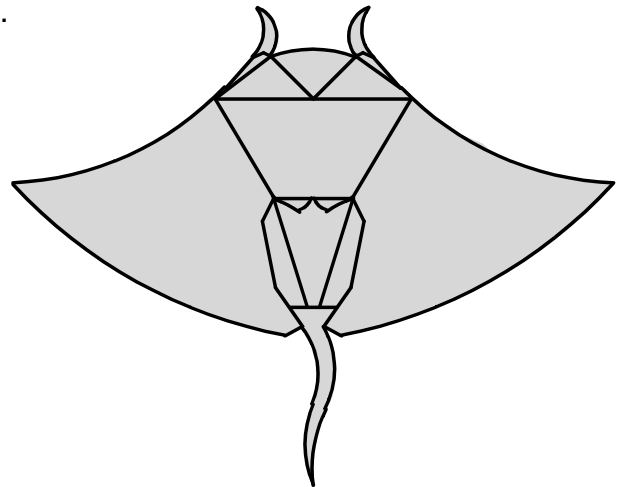
Thin the tail with mountain folds, then fold the tail in half. The tail will not lie flat where it joins the body. Two small points will become visible under the tail.

47.



Curve the body, then curve the wings back up. Curve the tail and the two cephalic lobes. Bend the two fins on the back upward.

48.



Finished Manta Ray.