# 1 Fold the Strip

1. Fold a strip of paper using the following instructions.

   Take a long, thin strip of paper and begin by folding up to form any angle you like, then unfolding it to see the angle formed by the crease line and the bottom edge of the paper.

   Now fold down so that the top edge of the paper falls along the crease line you just made, and unfold to see the new crease line.
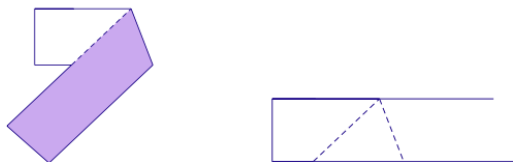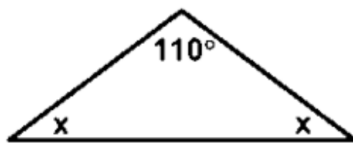

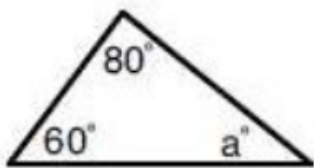   Next fold up along the newest crease line, then unfold.
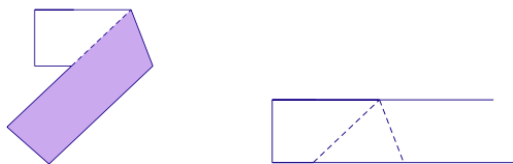
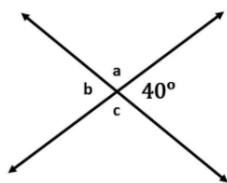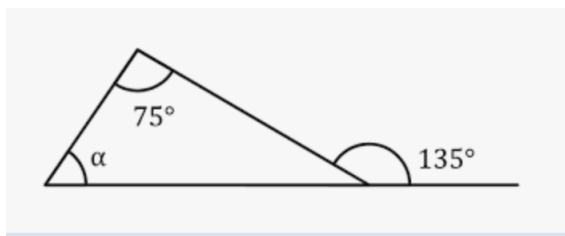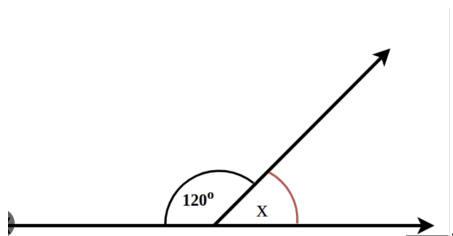   Keep alternating up folds and down folds.

2. What happens to the shapes of the triangles in the long run? Describe the equilibrium that you see.
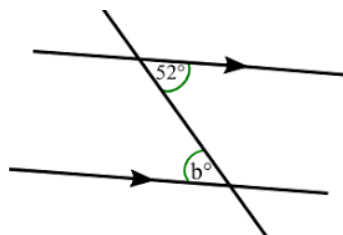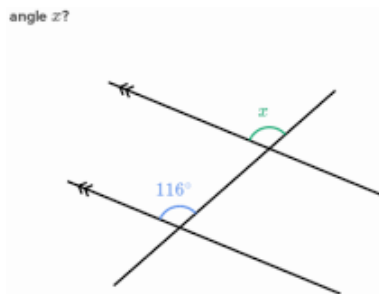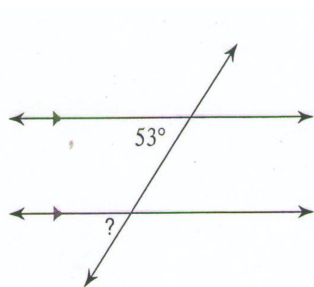
2 Facts about Angles

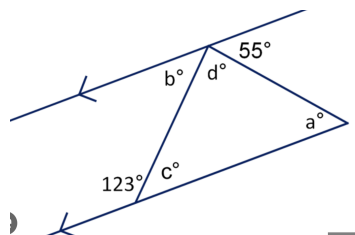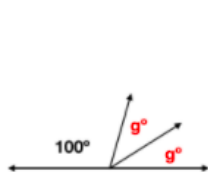3. For each triangle, find the measure of the missing angle.

4. What are the measures of the missing angles in these figures?

5. What are the missing angles labeled in these figures? Assume that the two lines that look parallel are parallel.


6. What are the missing angles labeled in these figures?

7. Why does folding the strip reach an equilibrium? Use facts about angles and think about what happens to the difference between the angles and 60°.

8. We can use the strip to fold a hexagon. Throw away the first few triangles on your strip of paper, then fold the paper along crease lines to form a hexagon, as illustrated below. You will need 9 triangles and some tape.

   You can think of the hexagon as being made from three strips of 3 triangles each. Make sure that each strip of three triangles lies over its neighbor on one side and under its neighbor on the other side.
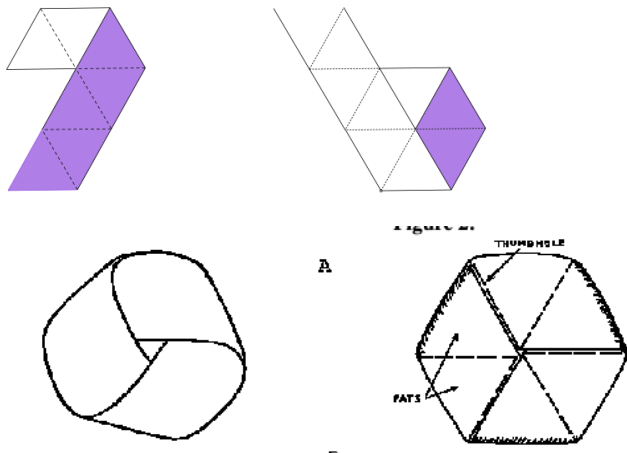
9. Color each of the two sides of the hexagon that you have made. Then pinch and unfold it to reveal ... a third side!