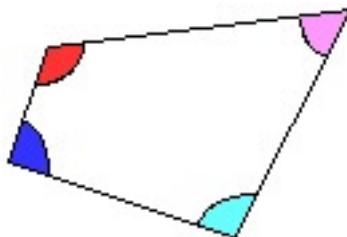


The Sum of the Angles in a Quadrilateral

Activity 1

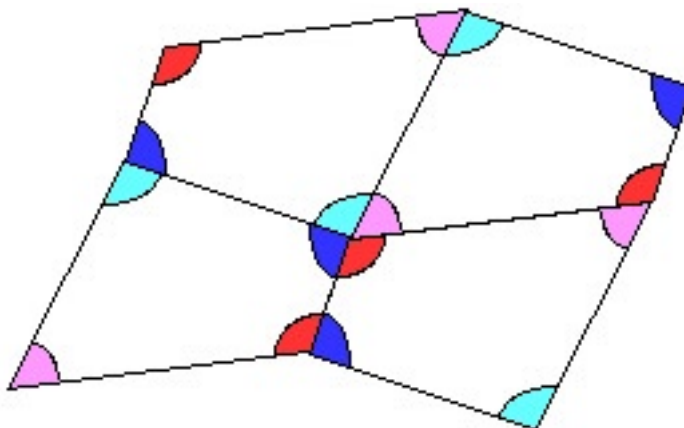
In this activity we will study the sum of the angles in an arbitrary quadrilateral.

You have a set of four congruent copies of an arbitrary quadrilateral, that is, it is not special in any way. Mark the angles in one of the quadrilaterals with different colors. Identify angles in the other quadrilaterals that are congruent to each of the colored angles. Mark congruent angles with the same color.



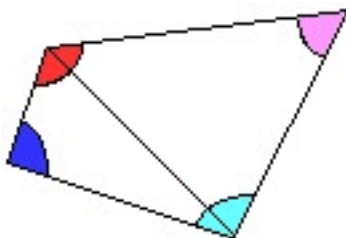
Identify angles in the other quadrilaterals that are congruent to each of the colored angles. Mark congruent angles with the same color.

A way to see that the sum of the angles in an arbitrary quadrilateral is by placing four copies of the quadrilateral around a common vertex, so that all colors are present. You will need to rotate two of the quadrilaterals.



Activity 2

Another method to find the sum of the angles in a quadrilateral is by realizing that the quadrilateral can be decomposed into two triangles.



Use the fact that the angles of the two triangles together form the angles of the quadrilateral. And that the sum of the angles in each of the triangles is 180° to find the sum of the angles in the quadrilateral.