

ACTIVITY -5

TOPIC: LINES AND ANGLES

TITLE: ANGLES MADE BY A TRANSVERSAL

1. **What we have to do?**

To examine the properties of pairs of angles when parallel lines are cut by a transversal.

2. **What is required?**

A drawing sheet, sketch pens, a pair of scissors, geometry box and adhesive.

3. **How much time is required?**

30 -40 minutes

4. **What do you need to know?**

Parallel lines, supplementary angles, transversal and Types of angles made by transversal.

5. **How will you proceed?**

- a. Make a pair of parallel lines cut by a transversal and mark angles as shown in Fig.1

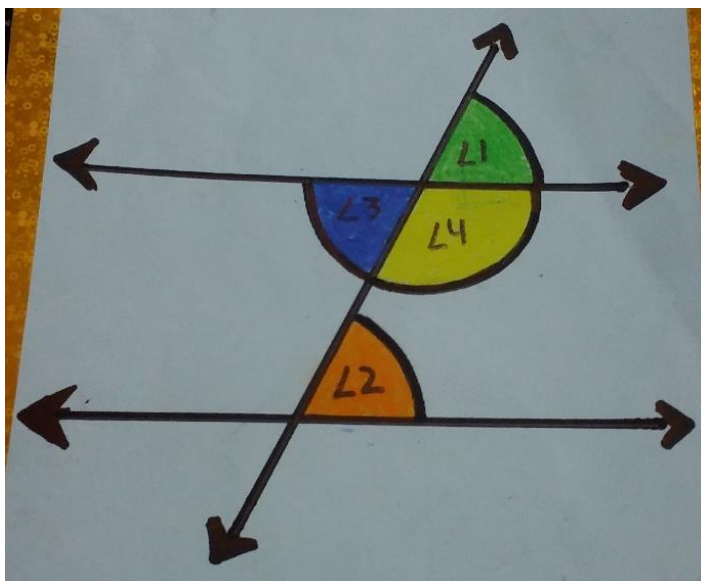


Fig. 1

- b. Cut out one of the corresponding angles and paste on the other as shown in the Fig. 2.



Fig.2

- c. Cut out one of the alternate interior angles and paste on the other as shown in the Fig.3.



Fig.3

- d. Draw a straight line and arrange the cut outs of co-interior angles as shown in the Fig.4.



Fig.4

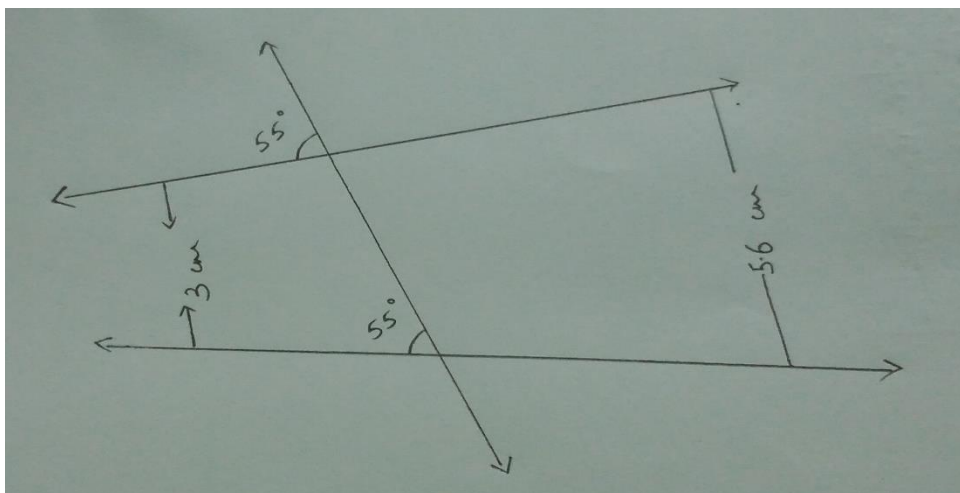
6. What have you observed?

- Since $\angle 2$ completely overlaps _____. Therefore, _____ angles are equal.
- _____ completely overlaps _____. Therefore, alternate interior angles are equal.
- _____ + _____ = 180° . Therefore, Co-interior angles are supplementary.

7. What have you learnt?

8. Extended Activity

- a) Find the value of each angle marked with $\angle 2$, $\angle 3$ and $\angle 4$ in the Fig. 1 above, if $\angle 1 = 70^\circ$.
- b) Sonu has drawn a figure on a paper, as shown below. After drawing, she noticed that the lines were not equidistant everywhere and she marked a few angles. Are the angles marked by her correct? Why or why not?



Real life Applications:

The above concept is used in our day-to-day life incidents viz. in painting, drawing, sports, making buildings, clock etc....