Name of the student : **రేఖ టీచర్ బడి**

Class :- VII Class

Name of the lesson : Lines and Angles

Title:-

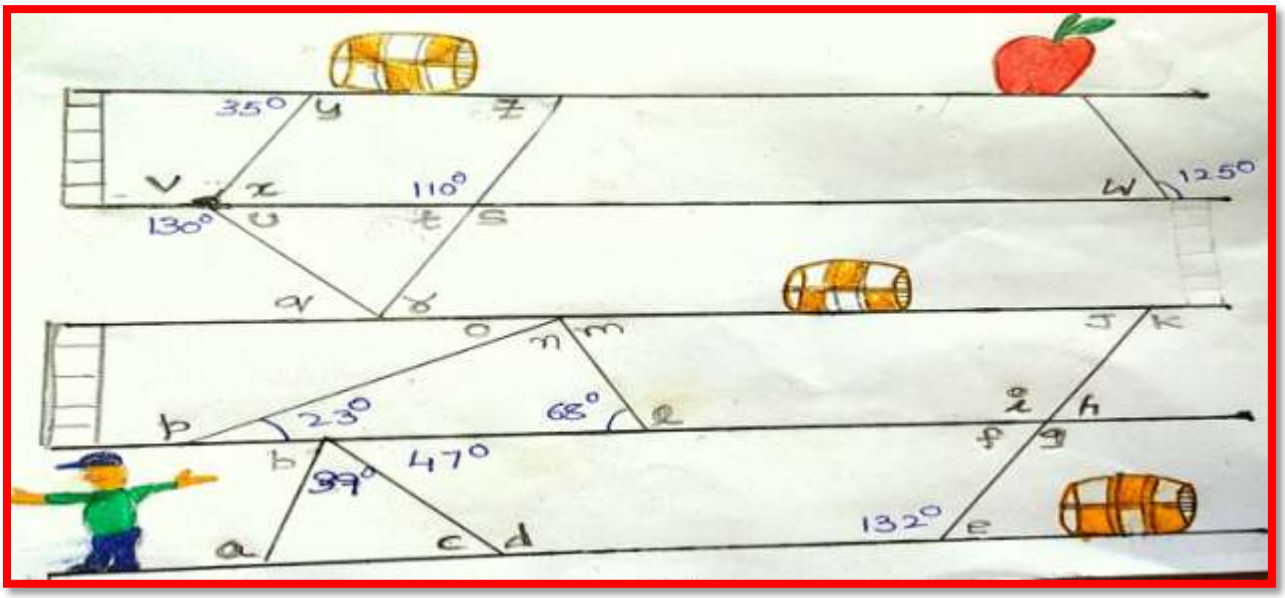
AIM:-Through activities understanding the **concept of** Transversal

Objectives: Identifying the Interior angles ,Exterior angles,Corresponding Angles,Alternate Angles.

Materials used: Scale ,pencil, pen ,Protractor,etc.

Tools: Activity based project (Experiment)

Procedure: My maths sir gave me the following question. In the following figure how the boy can catch an apple? conditions are 1) Find all missing angles 2) Can jump floor to floor by using barrel through corresponding angles only.

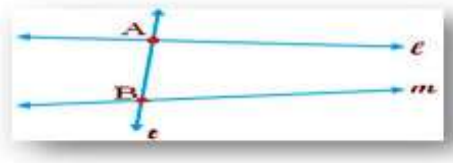


I identified angles With previous knowledge. I found angles in the figure.

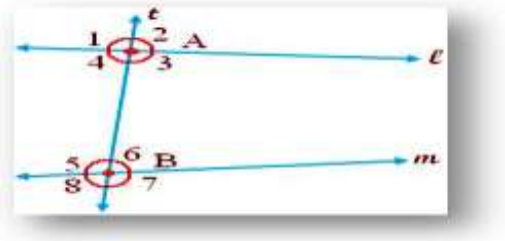
Previous knowledge:-

Intersecting lines :-Lines 't', *l*,and m, intersecting lines. They are intersecting lines because they intersects at one point A only.

Transversal:- The line which intersects two distinct lines in a plane at two distinct points is called a transversal.



Angles made by the transversal with two lines:l and m are two lines in a plane. Transversal 't' intersects these two lines at points A and B. Eight angles are formed, i.e., ∠1, ∠2, ∠3, ∠4, ∠5, ∠6, ∠7, ∠8. The angles marked have their special names.



Interior angles: Angles whose arms include AB are called interior angles. In the given figure, ∠3, ∠4, ∠5, ∠6 are interior angles.

Exterior angles: Angles whose arms do not include AB are called exterior angles. In the given figure ∠1, ∠2, ∠7, ∠8 are exterior angles.

Pair of corresponding angles: These are pair of angles.

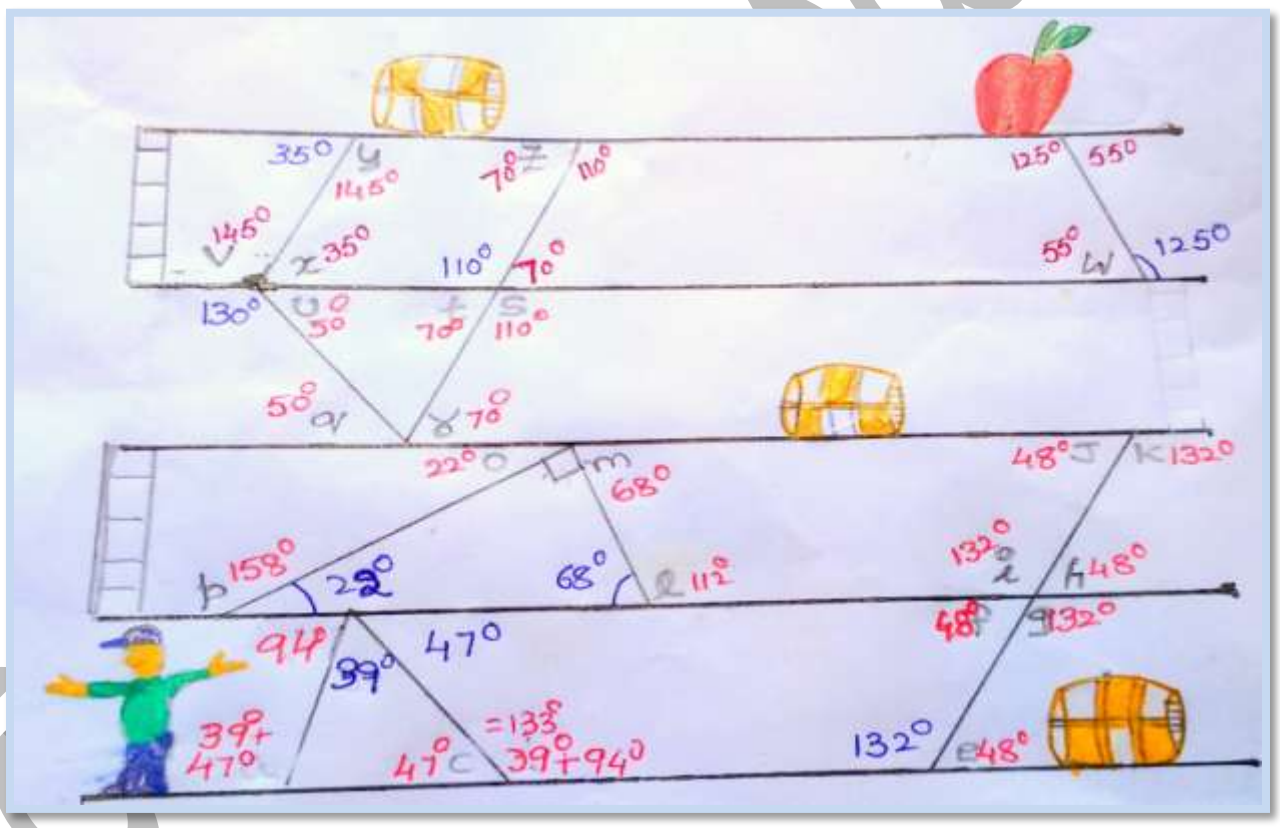
- Which lie on the same side of the transversal.
- If one is an interior angle, the other will be an exterior angle.

- They do not form a linear pair. In the figure, corresponding angles are: (∠2, ∠6); (∠3, ∠7); (∠1, ∠5); (∠4, ∠8)

Pair of alternate angles: These are pairs of angles.

- Which lie on opposite sides of transversal.
- Both are either exterior angles or both are interior angles.
- They do not form a linear pair. In the given figure, alternate angles are,(∠4, ∠6); (∠3, ∠5)

Pair of interior angles: These are pairs of interior angles which lie on the same side on the transversal. In the given figure, interior angles are (∠3, ∠6); (∠4, ∠5)



$\angle a = 39^0 + 47^0$ Alternate angles on a transversal

$\angle b = 180^0 - (39^0 + 47^0) = 94^0$ Angle at a point on a straight line

$\angle c = 47^0$ Alternate angles on a transversal

$\angle d = 39^0 + 94^0$ Alternate angles on a transversal

$\angle e = 180^0 - 132^0 = 48^0$ Angle at a point on a straight line

$\angle f = \angle e = 48^0$ Alternate angles on a transversal

$\angle g = 132^0$ Alternate angles on a transversal

$\angle g = \angle i = 132^0$ Vertically opposite angles

$\angle h = \angle f = 48^0$ Vertically opposite angles

$\angle l = 180^0 - 68^0 = 112^0$ Linear pair

$\angle m = 68^0$ Alternate angles on a transversal

$\angle l = 90^0 + \angle o = 112^0$ Alternate angles on a transversal

Therefore $\angle o = 112^0 - 90^0 = 22^0$

$\angle j = \angle h = 48^0$

$\angle g = \angle k = 132^0$ corresponding angles on a transversal

$\angle p = 90^0 + 68^0 = 158^0$ Alternate angles on a transversal

$\angle u = 180^0 - 130^0 = 50^0$ Linear pair

$\angle q = \angle u = 50^0$ Alternate angles on a transversal

Similarly found all angles.

I started my journey from" ∠a" ,and found every Angle by using a transversal properities.

I reached First floor by climbing from barrel through corresponnding angle "∠e" to "∠h".Second floor by cradel.Third floor by climbing barrel through corresponnding angle "∠r" to "70^0" and then using cradel.I catched apple.

Observations:-1)when a transversal passes through two parallel lines.

- ✓ Pairs of corresponding angles are equal
- ✓ Pairs of alternate angles are equal
- ✓ Interior angles on the same side of transversal are supplementary

2) when a line passes through two lines then,

- pairs of corresponding angles and alternate angles are equal
- Interior angles on the same side of transversal are supplementary.

Then two lines are said to be **parallel** to each other.

Experience of the student : I confused first to find angles, afterwards enjoyed it.

To find ∠a, ∠b, ∠d .i did mistake .Then corrected my mistake.

Doubt: If they are not parallel how can i find angles?

Acknowledgement:

1. My sincere thanks to our group members who cooperated a lot.
2. My sincere thanks to our maths teacher.

Reference books / resources:

1. VI, VII, Maths State Text books and VII class CBSE text book.