



Pre-Lab Questions:

1. Who was Al-Ijliya?
2. How is an astrolabe like a protractor?
3. How does astrolabe work?
4. What were the challenges she had to overcome to become a scientist?
5. What was her contribution in science and technology?
6. How can Al-Ijliya's story be used in the fight of stereotypes against Muslim Women Mathematicians and scientists?
7. Describe the connection between these three: Al-'Ijliyyah, Astrolabes and protractor

Materials needed:

Students will be given A4 paper, scissors, tape, string, paper clip, and a pencil.

Procedure:

1. Make a paper astrolabe by using A4 paper and straightedge. Use half of the paper to make a semicircle and remaining half to make a paper straw. Watch tutorial, here
2. Construct a semicircle by pencil
3. Use scissors to make a paper semicircle. Glue it on a hard paper. Create a hole in the middle and write angles from 0 to 180 degree along the edge of the semicircle.
4. You need to suspend a weight (penny) through the hole of your astrolabe by using a rope.
8. Glue the paper straw to the straight side of your astrolabe
9. Find the height of your classroom using astrolabe.

Measurement:

1. Find the angle from your eye between the adjunct side and hypotenuse of the right angle triangle. Draw the diagram.
2. Find the adjacent side, from your eye to the other side of the wall below the ceiling.
3. Find the distance between ground to your eye.
4. Find the h of your classroom (show all work):