

## CONSTRUCTING REGULAR POLYGONS ~ ANGLES OF SYMMETRY

Open a New Document on your TI-Nspire

- Graphs and Geometry
- Menu – view – Plane Geometry View

Draw a segment. One endpoint should be in the center, the other should be to the right.  
(If you make it too long, you can change it later)

Add a textbox. Menu- tools – text

Type 45 in the textbox.

Rotate the segment.

- Menu – transformation – Rotation
- Click on the “center of rotation” (the first endpoint of the segment)
- Click on the “45”
- Click on the segment.

You now have a 45 angle. You can change the angle measure to any degree, Try a few.  
Change it back to 45 when you are done.

Repeat the rotation steps until you end up back at the first segment.

Connect the endpoints to form a regular octagon. (Including the angles of rotation)

Follow up: Make changes to construct a regular pentagon and a regular hexagon.

Exploration: Try other values instead of 45. Try negatives. Try values larger than 360.  
Make a note of anything of interest for further discussion.