# 2D with GSU ~ Regular Polygons

Use **Zoom** (scroll or Z)  $\bigcirc$  or , **Orbit** (O)  $\textcircled{\diamondsuit}$ , and **Pan** (O + shift) 2 tools to reposition your screen.

## DRAWING REGULAR POLYGONS AND CIRCLES

**<u>Start:</u>** Select **TOP VIEW** to change the view to 2D: Select the Camera Menu > Standard View > Top View.

## Drawing a square

- 1. Select Rectangle I. Click at the origin and draw a rectangle along the green and red axis.
- 2. Type 2m,2m ENTER ← designating the dimensions to be 2 meters by 2 meters.

## Drawing a regular hexagon

- 1. Select Polygon  $\checkmark$  then type 6 ENTER  $\leftarrow$  (designating the polygon to have 6 sides).
- 2. Click at the origin and draw a hexagon along the red and green axis.
- 3. Type  $2m ENTER \leftarrow designating the radius to be 2m$ .

# Drawing other regular polygons

- 1. Select polygon  $\square$  then type the number of sides for the polygon you wish to draw then ENTER  $\square$ .
- 2. Click at the origin and draw a regular polygon along the red and green axis.
- 3. Type  $2m ENTER \leftarrow designating the radius to be 2 meters.$

# ✤ Draw a circle

- 1. Select Circle . Click at the origin and draw a circle along the red and green axis.
- 2. Type  $2m ENTER \leftarrow designating the radius to be 2 meters.$

#### Finding dimensions

- 1. Draw any regular polygon following the above steps.
- 2. <u>Draw the Radius:</u> Select Line *land draw a line from the center of the polygon (the origin) to a vertex.*
- 3. <u>Draw the Apothem:</u> Using the line tool draw a line from the center of the polygon to the midpoint of a side. Notice how GSU finds the location of the midpoint when you hover near it.
- Finding Dimensions: Select Dimension <sup>\*\*</sup>. Click on one endpoint of the radius, then the second endpoint of the radius. Pause for 1 second and click on the second midpoint again. Find the lengths of the apothem and side as well.

# This information will be helpful in finding surface area and volume of prisms and pyramids later on.

