Geometry

**Step 1:** Open GeoGebra and hide the axes.

**Step 2:** Create a circle with center A and point B.

**Step 3:** Place a point C and D and E counter clock-wise from point B on the circle.

Step 4: Use the polygon button 🔛 to create polygon BCDE inside the circle (the cyclic quadrilateral.)

**Step 5:** Click on the angle button and then click inside polygon BCDE to create the interior angles of the polygon.

Your construction should now look like this:



Step 6: If you add the measures of angle C and E together, what do you get? \_\_\_\_\_\_

If you add the measures of angles B and D together, what do you get? \_\_\_\_\_

Move the points B, C, D, or E around. What do you notice about the sums of opposite angles C and E, or angles B and D now?\_\_\_\_\_

Compare your results with the results of others near you.

Your next conjecture could be: The <u>sum of the measures of a pair of opposite angles in a cyclic</u> <u>quadrilateral is</u>\_\_\_\_\_.