

Author: _____

Group Members:

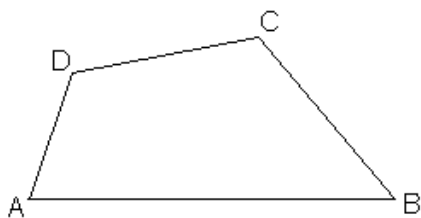
1. Can you make a right triangle with sides of length 3 cm, 5 cm and 7 cm? If so, draw one. If not, explain why not.

2. Can you make a triangle with sides of length 3 cm, 5 cm and 7 cm? If so, draw one. If not, explain why not.

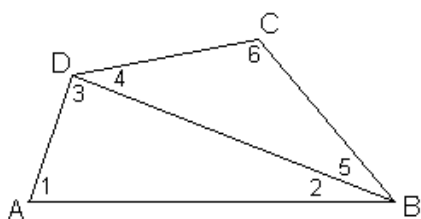
3. Can you make a triangle with sides of length 2 cm, 3 cm and 7 cm? If so, draw one. If not, explain why not.

Recall that the sum of the angles in a triangle is 180° . We would like to find out what the sum of the angles in other polygons would be.

4. Consider the quadrilateral below. You will work on finding $\angle A + \angle B + \angle C + \angle D$.



We can draw in a line to form two triangles and label the angles as below. Find the following.

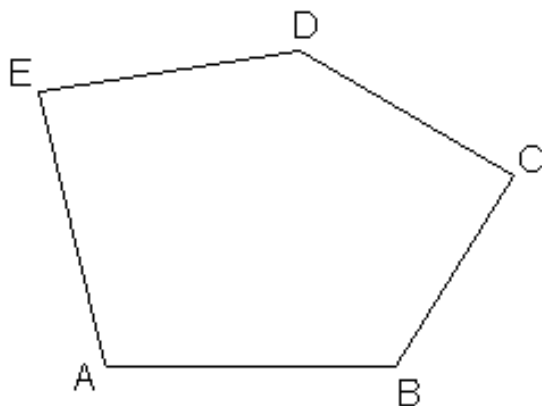


$$\angle 1 + \angle 2 + \angle 3 =$$

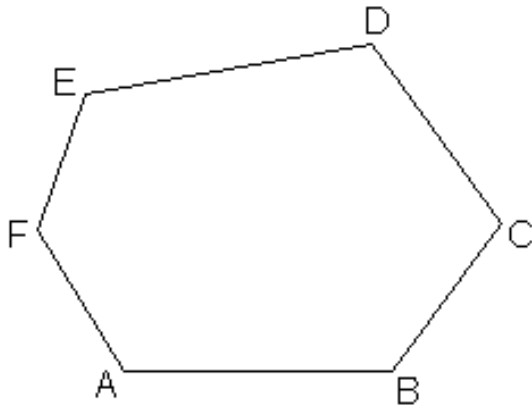
$$\angle 4 + \angle 5 + \angle 6 =$$

$$\angle A + \angle B + \angle C + \angle D =$$

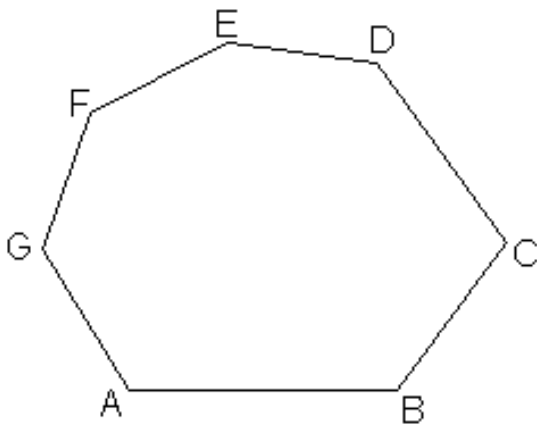
5. Use a similar method to find the sum of the angles in the pentagon below.



6. Use a similar method to find the sum of the angles in the hexagon below.



7. Use a similar method to find the sum of the angles in the heptagon below.



8. What do you think the sum of the angles in an octagon would be?

9. Extending the ideas you used above, find a formula for the sum of the angles in an n -gon .

