More Investigating Triangles Inside Circles

The first three diagrams show four joined isosceles triangles that fit together inside a circle. Calculate all marked angles and write down what you notice about the shaded angles. In the final diagram, choose your own angles and test your theory.
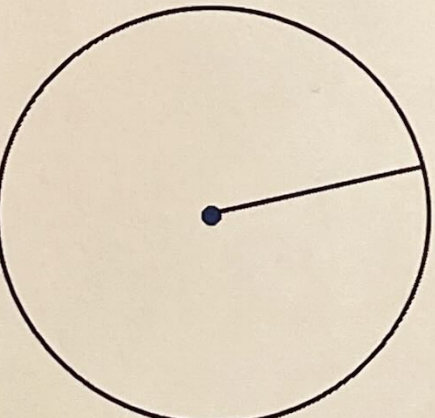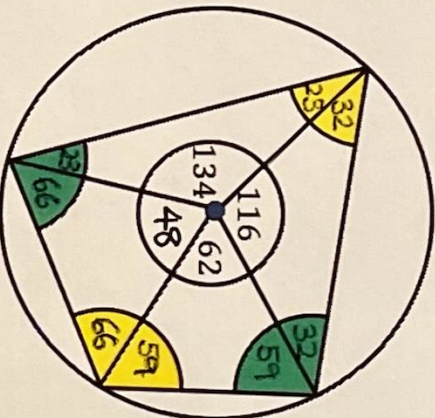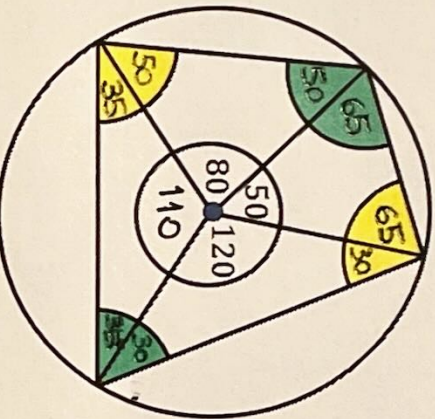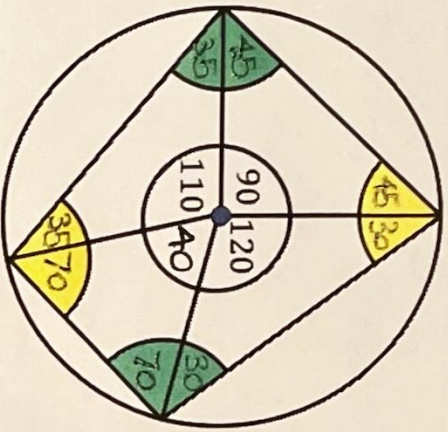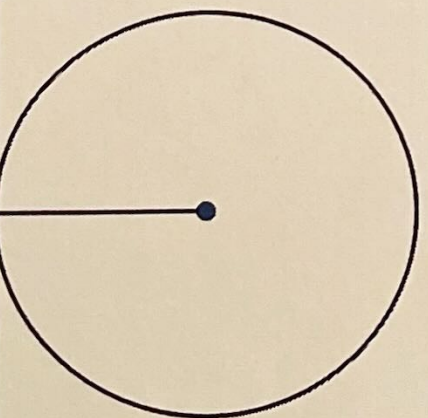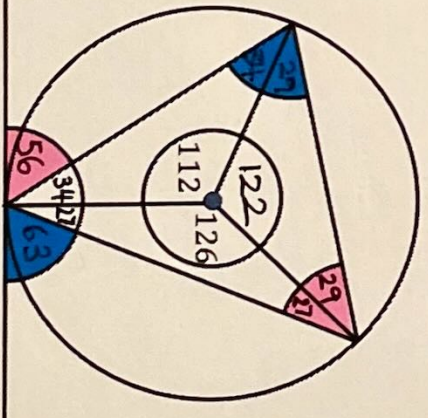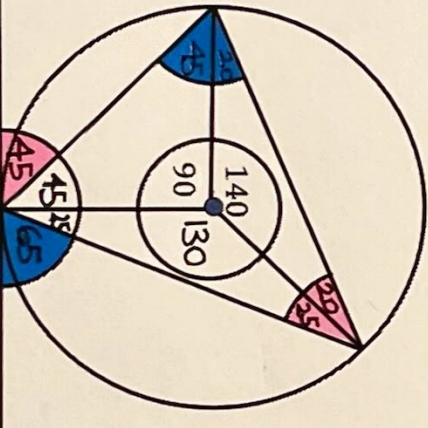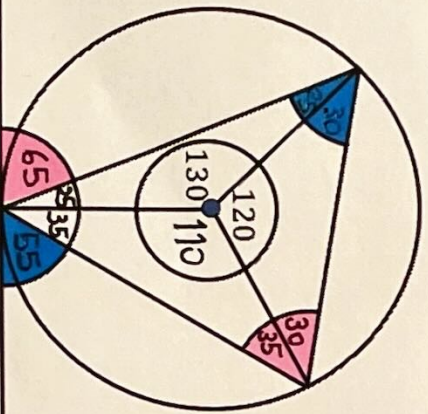

What did you notice? The sum of the yellow angles is always 180°. The sum of the green angles is 180°.

The next three diagrams show three joined isosceles triangles inside a circle with a tangent. Calculate all marked angles and write down what you notice about the shaded angles. In the final diagram, choose your own angles and test your theory.

What did you notice? The pink angles are always equal. The blue angles are always equal.