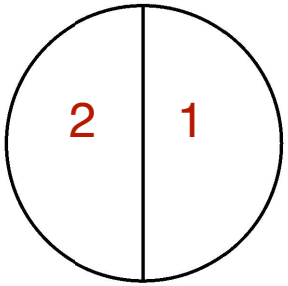
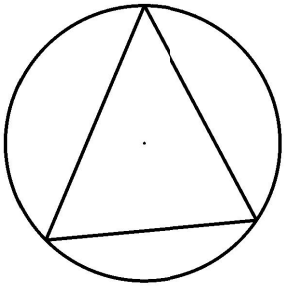
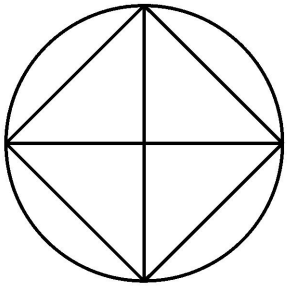
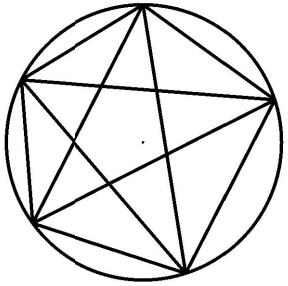
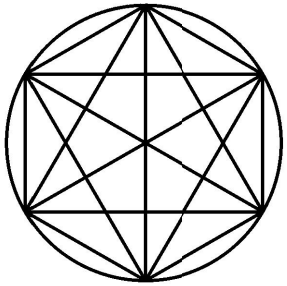
In each circle, there are 2, 3, 4, etc. points and each point is connected to every other point. Number each region and count the number of regions. Is there a formula relating the number of points on the circle and the number of regions?

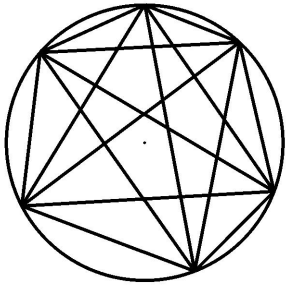












DIscussion: There looks like there is a formula if you look at the first 4 circles. Inductive reasoning would lead you to believe the formula works for all circles, but it does not.