

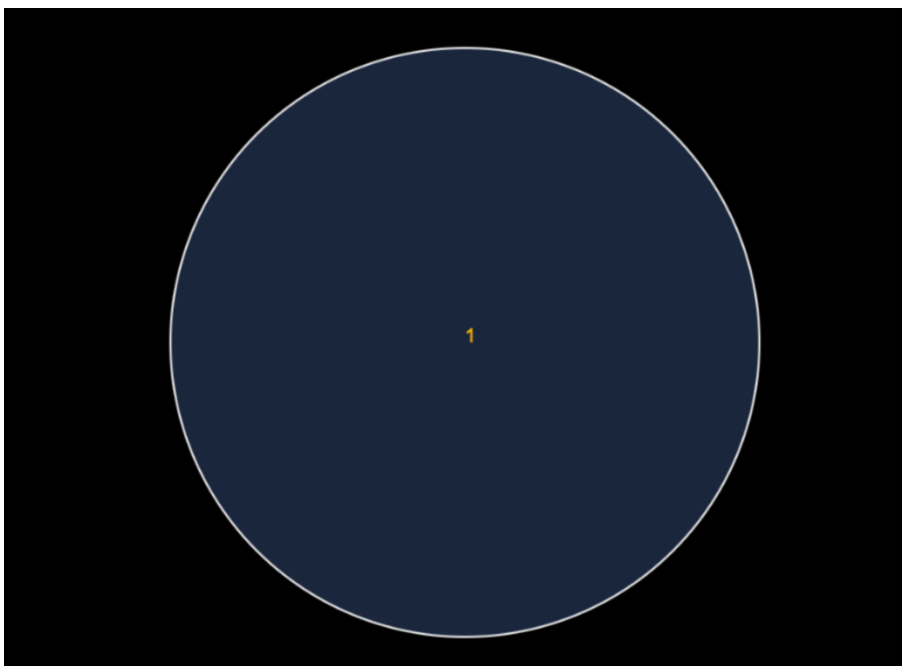
# Pizza Cut\_Nrich

The tabular explanation of our exploration is as follows:

No of Chords	Max Number of Regions
0	1
1	2
2	4
3	7
4	11
5	16
6	22

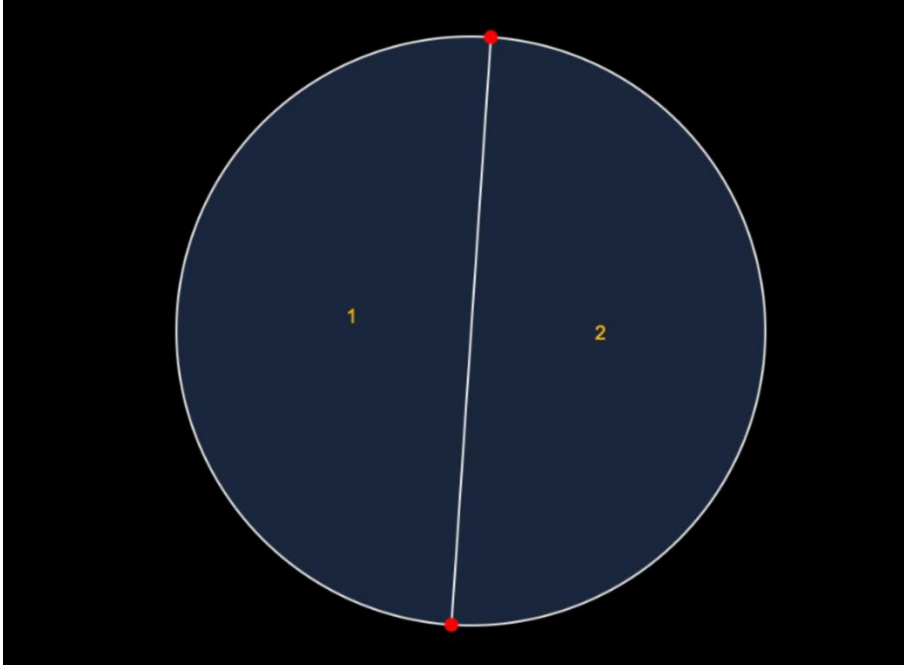
Here are the images for the each case-

CASE 1 – Number of Chords :0 Maximum Number of Regions:1

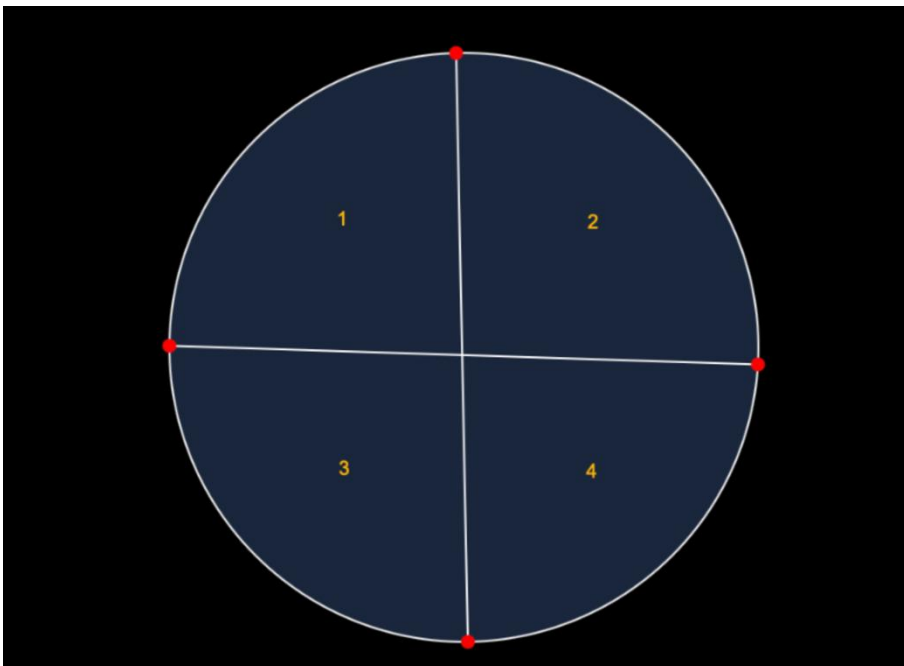


# Pizza Cut\_Nrich

**CASE 2 – Number of Chords :1 Maximum Number of Regions:2**

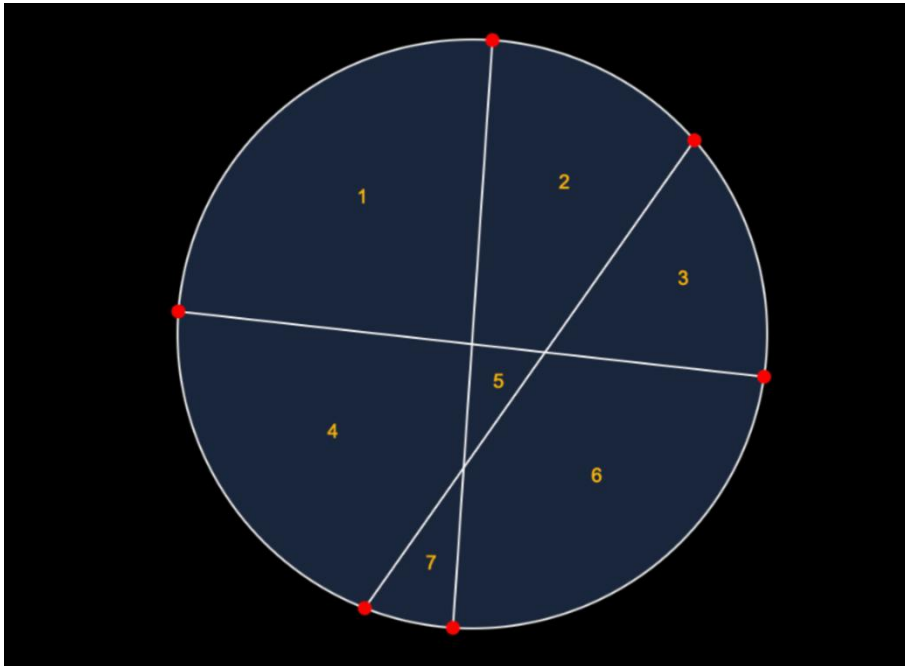


**CASE 3 – Number of Chords :2 Maximum Number of Regions:4**

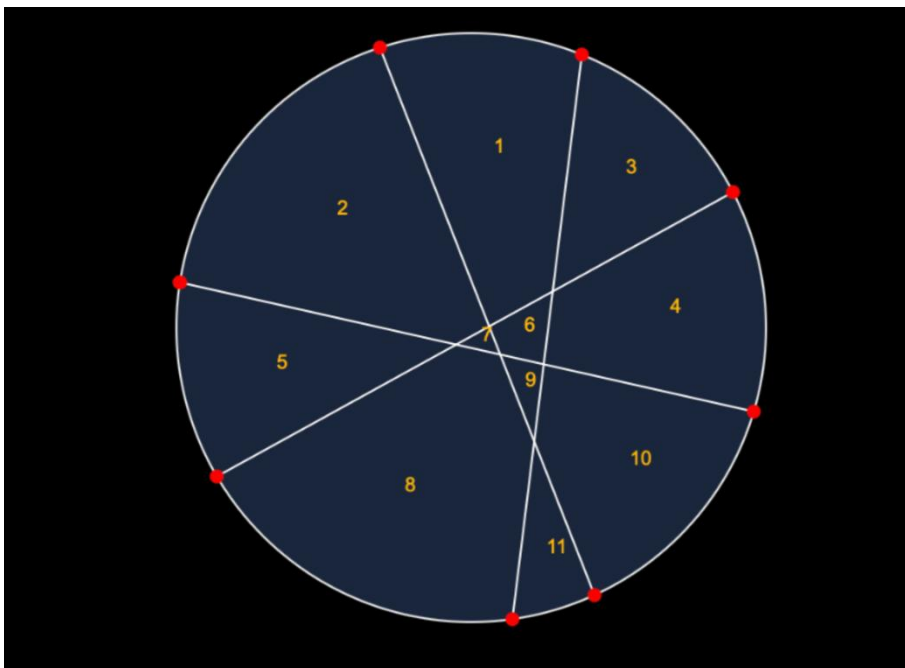


# Pizza Cut\_Nrich

**CASE 4– Number of Chords :3 Maximum Number of Regions:7**

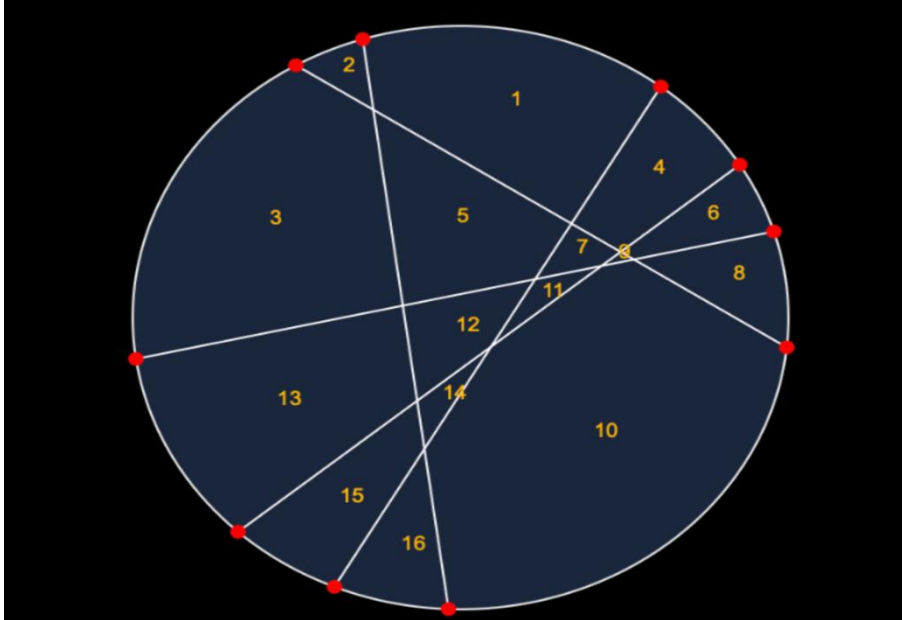


**CASE 5– Number of Chords :4 Maximum Number of Regions:11**

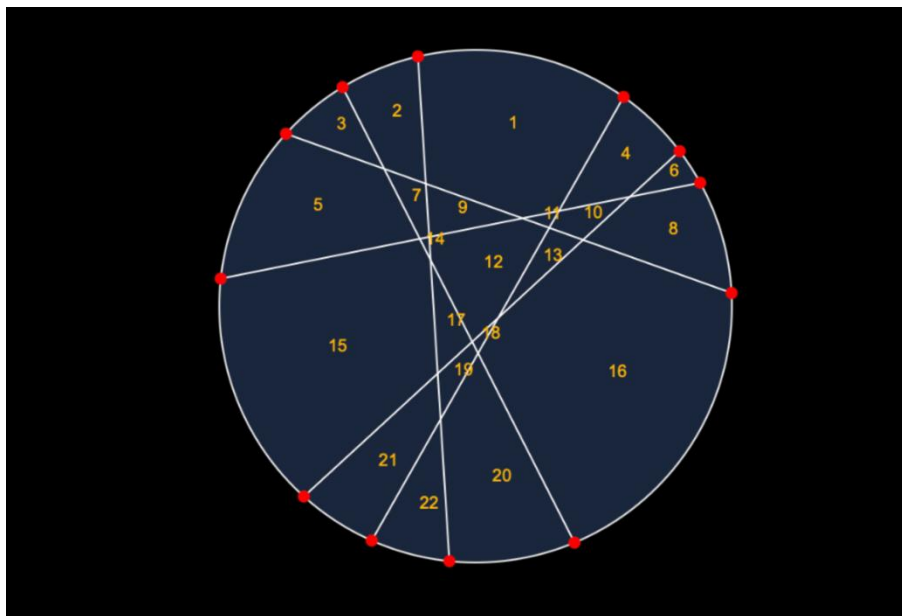


# Pizza Cut\_Nrich

**CASE 6 – Number of Chords :5 Maximum Number of Regions:16**



**CASE 7 – Number of Chords :6 Maximum Number of Regions:22**



# Pizza Cut\_Nrich

Once this was worked out with further discussion with our teacher we reached to a conjecture that,

***For 'n' (non-congruent) chords(cuts) we end up getting maximum of  $1 + T_n$  number of regions where  $T_n$  is the  $n^{\text{th}}$  triangular number. Where  $T_n$  is given by  $T_n = n(n+1)/2$***