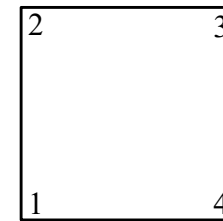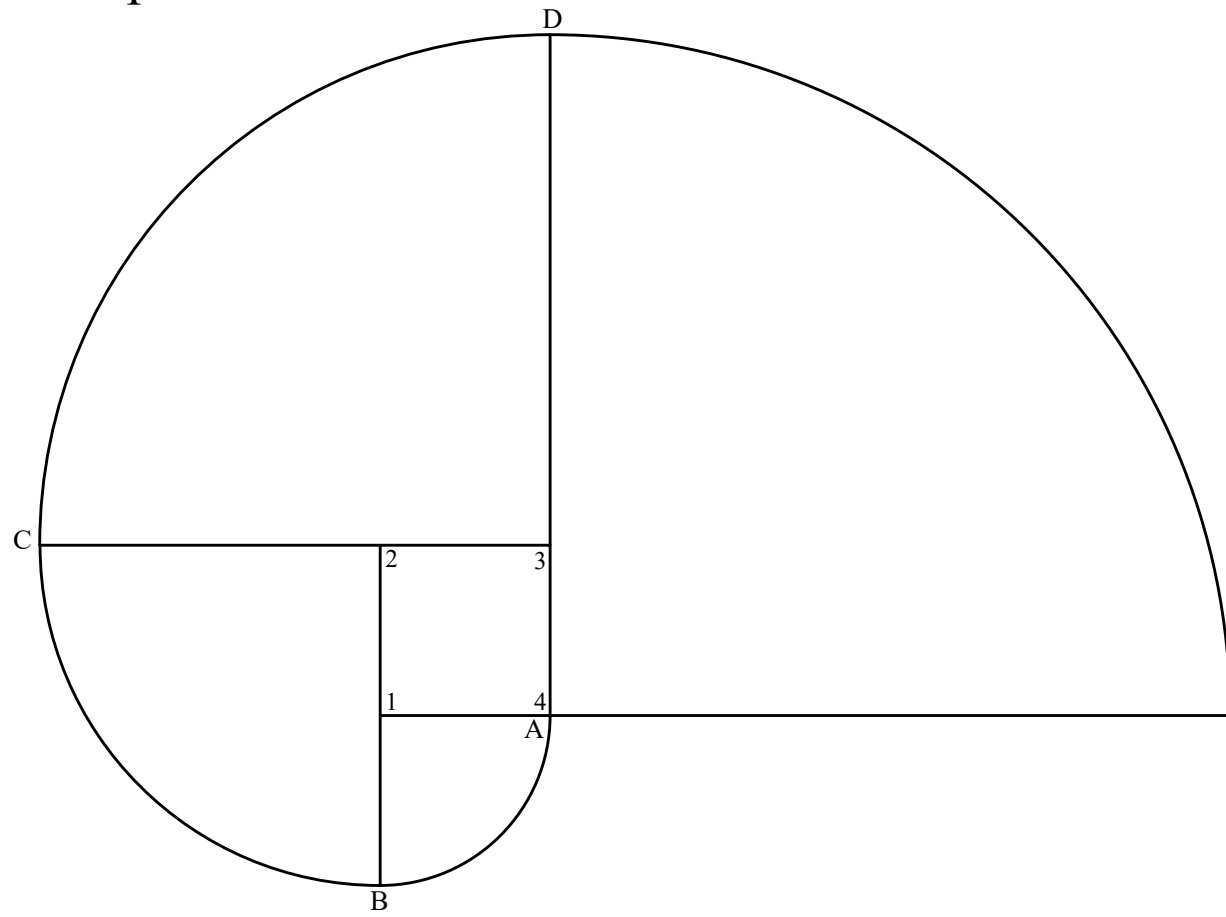An Involute is the locus of a point of a string as it unwinds from a square. This involute is drawn using compasses.

Step 1: Extend each side of the square.
Step 2: From corner number 1 of the square, use your compass to construct a quadrant with radius 1A
Step 3: Construct another quadrant from 2 with radius 2B
Step 4: Construct another quadrant from 3 with radius 3C
Step 5: Construct another quadrant from 4 with radius 4D

INVOLUTE OF A SQUARE

An Involute of a circle is similar but this time we need to draw tangents to the circle and the involute is drawn in freehand.

Step 1: Divide the circle in 12 divisions using 30/60 degrees and number them accordingly

Step 2: Draw the horizontal line AB the length of the circumference

Step 3: Divide line AB in 12 equal parts

Step 4; Draw tangents from each division on the circle

Step 5: Use your compass to measure the distance between 0 and 1 on line AB, then go from no.1 on the circle and strike an arc on the tangent.

Step 6: then measure the distance from 0 to 2 on line AB and strike an arc with the same measurement from 2, to the tangent drawn from 2 (on the circle)

Step 7: Repeat steps 6 and 7 for all numbers and the join all points using freehand drawing.

INVOLUTE OF A CIRCLE