Chapter 4

ORDER OF A POINT

Last section contains lost continua.

4.1 Menger-Urysohn's order of a point.

The arc-like continua are beautiful

4.2 Curves of a finite order.

The arc-like continua are beautiful

4.3 Urysohn's examples: for each positive integer $n \geq 2$ there is a continuum $X(n)$ consisting solely of points of order n and $2n - 2$.

The arc-like continua are beautiful

4.3.1 Sierpiński Tringle

The *Sierpiński Triangle* is obtained as the residual set remaining when one begins with a triangle and applies the operation of dividing it into four equal triangles and omitting the interior of the center one, then repeats this operation on each of the surviving 3 triangles, then repeats again on the surviving 9 triangles, and so on $\cdots$. See [36, Example 2.7].

The Sierpiński Triangle is homeomorphic to the unique nonempty compact set K of the complex plane that satisfies

$$K = w_1(K) \cup w_2(K) \cup w_3(K) \quad ,$$

where w_1, w_2, w_3 are maps of the complex plane defined by $w_1(z) = z/2$, $w_2 = (z+1)/2$ and $w_3 = (z+i)/2$.