Conside equivalence classes of polygonal chains on n segments where

(1) Edges can cross, but no segment can have a vertex on another segment's edge.

(2) Two chains are equivalent if one can move to the other without an edge crossing over a vertex, or a crossing being otherwise changed.

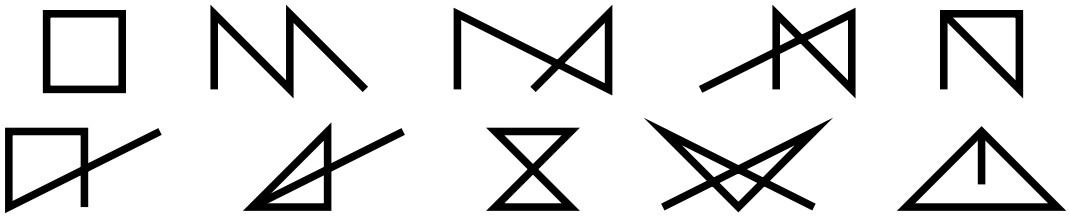

Figure 1: Examples of all known classes of polygonal chains of length 4.

Question. How many classes of polygonal chains exist on n segments?

Related.

1. What if all segments are of unit length, so the final example is not allowed?
2. What if the fifth and seventh example are considered the same because they are isomorphic as graphs? (Even if vertices are added at each intersection)
3. What is the smallest grid that can contain the figures if vertices must be placed on gridpoints?

References.

Problem 61.