

Exercises

E9.5 [29Z] Difficulty:*. Let $n \geq 3$ integer; consider a polygon of $n + 1$ vertices. Show that it can be cut in two polygons, one with h and one with k sides, and $3 \leq h \leq n$, $3 \leq k \leq n$. By "cut" we mean, two vertexes of the polygon (not contiguous) can be connected by a line that is internal and does not touch other vertexes or sides. The intersection of the two polygons is the segment BD , they do not have other points in common.

Hint. there is at least one vertex B "convex" in which the inner angle β is "convex" (i.e. $0 < \beta \leq \pi$ radians); call A, C the vertexes contiguous to B ; reason on the triangle ABC .

Solution 1. [1QT]