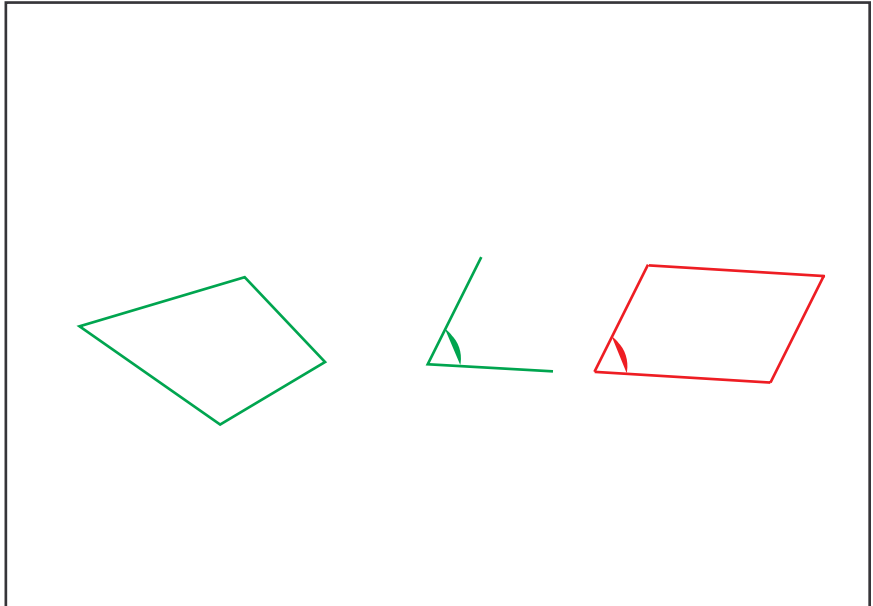


Construction 13: Book I, Proposition 45

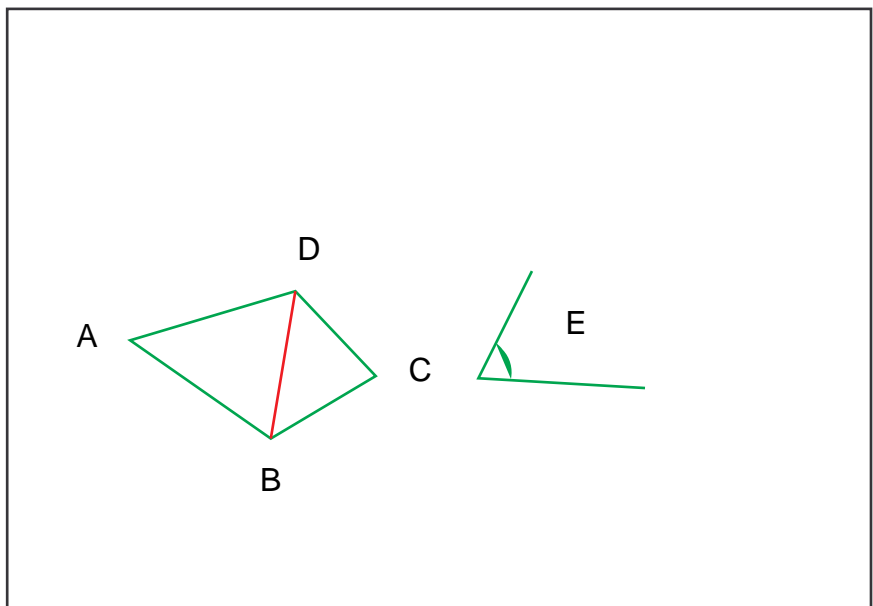
To construct, in a given rectilinear angle, a parallelogram equal to a given rectilinear figure.

Note: This given rectilinear figure may be divided (in either of two ways) into two triangles. A polygon with more sides could also be divided into triangles. So this construction is simply an example of a general method: divide the given rectangle into triangles, as many as needed, then apply Construction #12 repeatedly. We give this exemplary construction in outline form only.

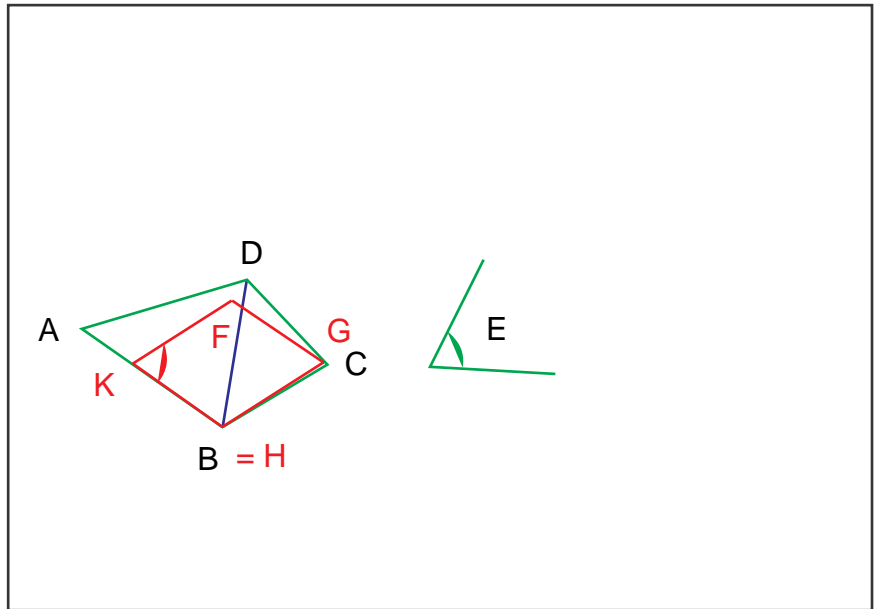


I.45:3. Let ABCD be the given rectilinear figure, and E the given rectilinear angle;

I.45:7 Let DB be joined,



I.45:7. and let the parallelogram FH be constructed equal to the triangle ABD, in the angle HKF which is equal to E; [I.42] (22 steps, omitted)



I.45:10. let the parallelogram GM be equal to the triangle DBC be applied to the straight line GH, in the angle GHM which is equal to E. [I.44] (36 steps, omitted)

Note: HM is AB prolonged.

