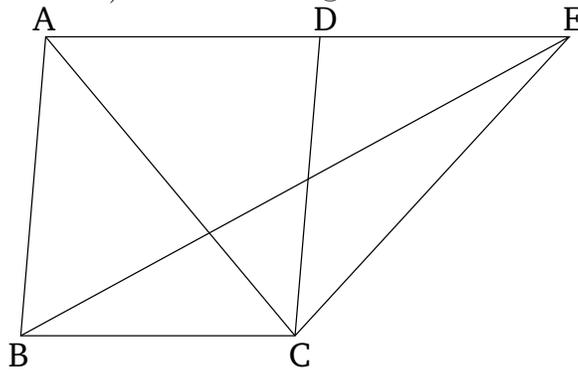


# Book 1

## Proposition 41

If a parallelogram has the same base as a triangle, and is between the same parallels, then the parallelogram is double (the area) of the triangle.



For let parallelogram  $ABCD$  have the same base  $BC$  as triangle  $EBC$ , and let it be between the same parallels,  $BC$  and  $AE$ . I say that parallelogram  $ABCD$  is double (the area) of triangle  $BEC$ .

For let  $AC$  have been joined. So triangle  $ABC$  is equal to triangle  $EBC$ . For it is on the same base,  $BC$ , as ( $EBC$ ), and between the same parallels,  $BC$  and  $AE$  [Prop. 1.37]. But, parallelogram  $ABCD$  is double (the area) of triangle  $ABC$ . For the diagonal  $AC$  cuts the former in half [Prop. 1.34]. So parallelogram  $ABCD$  is also double (the area) of triangle  $EBC$ .

Thus, if a parallelogram has the same base as a triangle, and is between the same parallels, then the parallelogram is double (the area) of the triangle. (Which is) the very thing it was required to show.