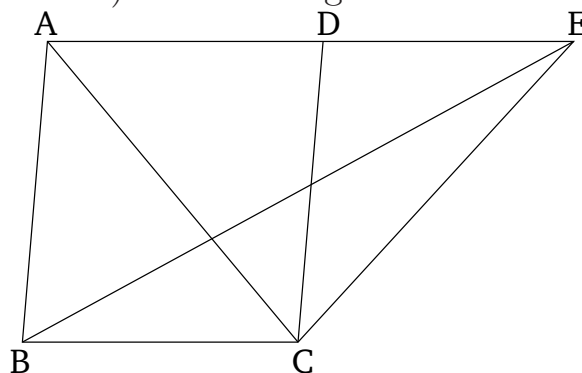


Book 1

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.