

MT 453 Elements Day 12

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Proposition I.41

If a parallelogram and a triangle have the same base and are in the same parallels, then the area of the parallelogram is twice the area of the triangle.

Let $\diamond ABCD$ and $\triangle EBC$ be in the same parallels.

Claim: $ABCD = 2EBC$

Draw AC (post. 1). Then $\triangle ABC = \triangle EBC$ (prop. I.37).

Then $ABCD = 2ABC$, so $ABCD = 2EBC$. **QED**

