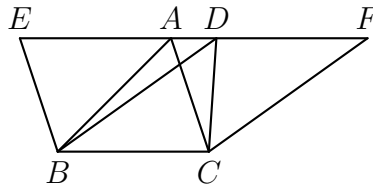


Study Note—Euclid’s *Elements*, Book I, Proposition 37

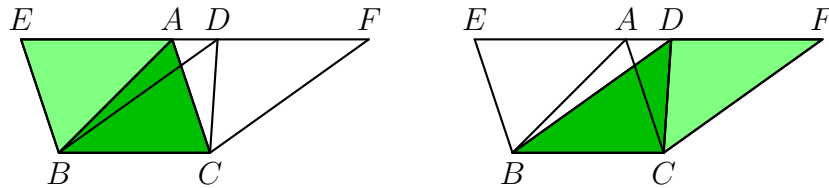
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This proposition concerns two triangles, ABC and DBC , that are on the same base BC and in the same parallels BC and EF . It is required to show that these two triangles are equal in area.



Let the parallelogram $EBCA$ be constructed so that the line AB bisects the parallelogram, and let the parallelogram $DBCF$ be constructed so that the line DC bisects the parallelogram.



Proposition 35 of Book I of the *Elements* ensures that the parallelograms $EBCA$ and $DBCF$ are equal in area. Proposition 34 ensures that the parallelogram $EBCA$ is in area double the triangle ABC , and also ensures that the parallelogram $DBCF$ is in area double the triangle DBC . It follows that the triangles ABC and DBC must be equal in area, as required.