

# Desargues



Girard Desargues (1591-1661) was a French mathematician and engineer, highly original, completely rigorous, and far from lucid. His method of stone-cutting works was a brilliant invention, but without personal tutoring no mason of the time would have been likely to understand it. Desargues' work on perspective led him to develop a new, non-Greek way of doing geometry, now called projective geometry. Indeed, Pascal contributed the little that he found on the matter, [Hexagrammum Mysticum](#), to Desargues' writings.

Two triangles  $abc$  and  $ABC$  (depicted in green) are in perspective with respect to a point if the three lines  $aA$ ,  $bB$ ,  $cC$  meet in a point.

Two triangles  $abc$  and  $ABC$  are in perspective with respect to a line if the intersection points of the pairs of lines  $ab-AB$ ,  $bc-BC$ ,  $ac-AC$  are collinear.

Desargues' theorem states that two triangles are in perspective with respect to a point if and only if they are in perspective with respect to a line.