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Jaydeep Chipalkatti* (chipalka@cc.umanitoba.ca), Department of Mathematics, University of Manitoba, Winnipeg, Manitoba R3T2N2, Canada. *The coincidences of Pascal lines.*

Pascal's theorem says that given six distinct points A, B, \dots, F on a conic, the three cross-joins $AE \cap BF, AD \cap CF, BD \cap CE$ are concurrent. The line containing them is called their Pascal. By permuting the names of the points, one gets sixty such lines in general, which are all distinct for a general choice of initial points. We show that if some of the Pascals coincide (i.e., the lines are not all distinct), then the points must either be in involution, or in the 'ricochet configuration'. The proof uses Gröbner basis techniques to solve multivariate polynomial equations. (Received July 02, 2014)