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Dan McQuillan* (dmcquill@norwich.edu), Norwich University, 158 Harmon Drive, College of Science and Mathematics, Northfield, VT 05663, and **R B Richter**. *On the crossing number of the complete graph, without computer assistance.*

Hill's conjecture for the crossing number of the complete graph with n vertices has been verified up to $n=12$. After briefly describing a standard approach, including its reliance on computers, we outline an alternative. Our approach involves the interplay between optimal drawings and drawings which are far from optimal. Our general results are enough to provide a complete proof that the crossing number of K_9 is 36. This is joint work with R. Bruce Richter. (Received January 19, 2015)