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David S Richeson* (richesod@dickinson.edu), Department of Mathematics and Comp Sci, Dickinson College, Carlisle, PA 17013. *Geometric constructions using a finite compass and a finite straightedge.*

We answer the following question: given a straightedge of length L , a compass that opens to a maximum radius R , and a unit interval, what is the set of constructible lengths? We also give a brief overview of the history of geometric constructions using a restricted tool-kit, e.g., rusty compass, compass-only, and straightedge-only constructions. (Received September 22, 2011)