1135-Q5-424   **Russell A Gordon*** (`gordon@whitman.edu`), Department of Mathematics, Whitman College, 345 Boyer Avenue, Walla Walla, WA 99362. *A simple construction problem.*

High school geometry courses usually spend a little time exploring compass and straightedge constructions. The fact that some seemingly simple constructions, such as doubling a cube or trisecting an angle, are impossible with just these tools can be surprising to students. Even a brief discussion of such problems can open the door to higher mathematics for curious students. In this talk, we present a collection of construction problems involving rectangles and determine conditions for which the construction can be carried out with compass and straightedge. The simple pictures point the way to some interesting higher level mathematics such as Diophantine equations and algebraic numbers. (Received September 01, 2017)