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Teresita Ramirez-Rosas* (teresita@math.ucsb.edu), 734 Elkus Walk, Apt 106, Goleta, CA 93117-4170. *Upper Bound for the Ropelength of a Trefoil Knot.*

The ropelength of a knot K is defined as the shortest length of unit radius rope needed to tie the knot K . The principal goal is to find an upper bound for its ropelength. In 2005, Justyna Baranska, Piotr Pieranski and Eric Rawdon found a polygonal knot with 1920 edges and unit normal injectivity radius that has length 32.7431. This is the last upper bound for a trefoil knot. We improved this upper bound by finding a trefoil knot with normal injectivity radius one and length 32.6039. Since the current lower bound is 32.31, we know that the ropelength of a trefoil knot lie between 31.32 and 32.6039. The construction suggests that the ropelength is likely to be very close to our upper bound. (Received March 03, 2009)