A necklace of \( n \) pearls is a cyclic arrangement of \( n \) equal balls (pearls) in space such that any two consecutive pearls are tangent to each other. The string of a necklace is the closed polygonal curve consisting of the line-segments each connecting the centers of a pair of consecutive pearls in a necklace. A necklace is said to form a knot if its string forms a knot. A necklace is knotted if its string forms a nontrivial knot.

How many pearls are necessary to make a knotted necklace, say a trefoil knot? It is shown that 15 pearls are sufficient, and that to make a knotted necklace which can be put in the shallowest-possible showcase (a box with a glass lid), 16 pearls are necessary and sufficient.

The proofs involve nice elementary-geometric reasoning.

**Reviewed** by Darko Veljan

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