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Scott Morrison* (scott@tqft.net), **Emily Peters** and **Snyder Noah**. *Discovering knot polynomial identities using the D_{2n} planar algebras.*

I'll tell you about the D_{2n} planar algebras, which are $\mathbb{Z}/2\mathbb{Z}$ quotients of the Temperley-Lieb planar algebras. These planar algebras aren't braided, but have a braiding on the 'even part'. We use this to define some knot invariants, which we can recognise as being related to two different quantum knot polynomials. This provides a new source of identities between knot polynomials. I'll also explain these identities in terms of isomorphisms between certain small modular tensor categories. These isomorphisms come from three sources: Kirby-Melvin symmetry, triality for $SO(8)$, and a degenerate case of level-rank duality for $SO(3) - SO(k)$. (Received September 15, 2009)