1127-18-229   **Noah Snyder*** (`nsnyder@gmail.com`), **Scott Morrison** and **Emily Peters**. *Trivalent Categories.*

We give a skein theoretic classification of tensor categories generated by a "trivalent vertex." That is we study a category $\mathcal{C}$ with an object X and a map $X \otimes X \to X$. Some of the examples that appear are quantum SO_3, quantum G_2, and some fusion categories related to the Haagerup subfactor. Our main techniques are a new approach to finding skein relations which can be easily automated using Gröbner bases, and evaluation algorithms which use the discharging method developed in the proof of the 4-color theorem. (Received February 04, 2017)