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**Scott Morrison** and **Emily Peters\***, epeters3@luc.edu, and **Noah Snyder**. *Categories generated by a trivalent vertex*.

We are interested in describing all small trivalent categories: A trivalent category is generated by a single object, and has the property that all morphisms can be drawn using trivalent graphs. Why are we interested in trivalent categories? Well, first, a lot of the quantum-group and subfactor fusion categories are trivalent. Second, we have tools of linear algebra and diagrammatic combinatorics that make these calculations fun and easy. In particular, we can prove theorems using the method of discharging (of four-color-theorem fame). (Received February 16, 2016)