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Barry A Balof* (balofba@whitman.edu), 345 Boyer Avenue, Walla Walla, WA 99362, and
Jacob V Menashe, 345 Boyer Avenue, Walla Walla, WA 99362. *Semiorders and Riordan Numbers*.

Semiorders, or unit interval orders, get their genesis in mathematical psychology but are more formally studied in ordered set theory. It is a classic combinatorial result that the number of semiorders on an n element set is the n th Catalan number, C_n . In our talk we are looking at a special class of these semiorders, those for which no two elements share the same predecessor and successor sets and each element is incomparable with its predecessor in the underlying linear order. We call semiorders with these properties ‘interesting semiorders’. We also examine the set of Motzkin Paths, which are generalizations of Catalan Paths (these are Catalan Paths which allow horizontal as well as up- and down- steps). In our talk, we will give an enumerative proof that the set of Motzkin paths and the set of interesting semiorders are both counted by the Riordan Numbers, which are a cousin to the Catalan Numbers.

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