

1106-20-531

Joseph Phillip Brennan* (jbrennan@binghamton.edu), Binghamton, NY , and
Luise-Charlotte Kappe. *Variation on a Theme of I.D. MacDonald.*

In a 1963 paper I.D. MacDonald gave an example of a group in which the cyclic commutator subgroup is not generated by a commutator and he gives sufficient conditions on the group G such that its cyclic commutator subgroup is generated by a commutator. The question arises, what is the situation for other words in case the associated word subgroup is cyclic, in particular the word x^n , n a positive integer.

For n a positive integer, we establish sufficient conditions such that $G^n = \langle g^n \mid g \in G \rangle$ is generated by an n -th power in case G^n is cyclic and give examples of groups G , where G^n is cyclic but not generated by the n -th power of an element. Further, we show that if G^n is cyclic, there exists elements $g, h \in G$ such that $G^n = \langle g^n, h^n \rangle$. (Received September 01, 2014)