A Skolem sequence can be thought of as a labelled path where two vertices with the same label are that distance apart. This concept has been generalized to labellings of other graphs, but always using at most two of any integer label. Given that more than two vertices can be mutually distance $d$ apart, we define a new generalization of a Skolem sequences on graphs that we call proper Skolem labellings. Given a graph $G = (V, E)$, we say $L : V \to [n]$ is a proper Skolem labelling of $G$ if whenever $L(v) = L(w) = i$ for $v \neq w$, then $d(v, w) = i$. The proper Skolem labelling is said to be of order $n$. This brings rise to the question; “what is the smallest set of consecutive positive integers we can use to properly Skolem label a graph $G$?” This will be known as the Skolem number of $G$. In this presentation, we will provide the Skolem number for cycles and some grid graphs, while also providing other related results along the way.

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