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# ON REP-DIGIT POLYGONAL NUMBERS 

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#### Abstract

This paper investigates on the properties of integers that are simultaneously represented as both $m$ rep-digit $\left(d R_{m}\right)$ and $n$-gonal numbers. Using hyperbolic geometry, we ascertain both lower and upper bounds on these numbers when there are a finite set these integers.


Key Words : Rep-digit, Rep-unit, Polygonal number, Simultaneous rep-digit polygonal, Pell equation.
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