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Can a Lucas number be a sum of three repdigits?

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Abstract: We give the answer to the question in the title by proving that

$$L_{18} = 5778 = 5555 + 222 + 1$$

is the largest Lucas number expressible as a sum of exactly three repdigits. Therefore, there are many Lucas numbers which are sums of three repdigits.

Keywords: Pell equation; repdigit; linear forms in complex logarithms

AMS Subject Classification: 11A25, 11B39, 11J86

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