

## On the representation of an exponential type sequence

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**Abstract.** Let  $p, q > 1$  be integers with  $(p, q) = 1$ . In 1959, Birch proved that every sufficiently large integer  $n$  can be represented as a sum of distinct integers of the form  $p^\alpha q^\beta$ . In this paper, we shall prove that for any real number  $\varepsilon > 0$ , there is a positive real number  $c = c(p, q, \varepsilon)$  such that every sufficiently large integer  $n$  can be represented as a sum of distinct integers of the form  $p^\alpha q^\beta$ , all of which are greater than  $\frac{cn}{(\log n)^{1+\varepsilon}}$ .

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