

# Cycle lengths in graphs

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## Abstract

We prove that for every  $c > 0$  there exists a constant  $K = K(c)$  such that every graph  $G$  with  $n$  vertices and minimum degree at least  $cn$  contains a cycle of length  $t$  or  $t + 1$  for every  $t$  in the interval  $[4, C - K]$ , where  $C$  denotes the longest cycle in  $G$ . We also give a rough estimate of the magnitude of  $K$ .