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# THE ON-LINE ENCYCLOPEDIA OF INTEGER SEQUENCES<sup>®</sup>

founded in 1964 by N. J. A. Sloane

 

(Greetings from [The On-Line Encyclopedia of Integer Sequences!](#))

A309030 Numbers  $k$  for which rank of the elliptic curve  $y^2 = x^3 + kx$  is 3. <sup>4</sup>

323, 328, 399, 445, 579, 723, 904, 943, 1023, 1139, 1288, 1314,  
1443, 1508, 1679, 1743, 1763, 1768, 1953, 2005, 2035, 2159, 2275,  
2328, 2419, 2451, 2504, 2533, 2725, 2739, 2790, 2793, 2824, 2915,  
2980, 3029, 3038, 3043, 3108, 3196, 3199, 3245, 3341, 3363, 3443,  
3459, 3465

([list](#); [graph](#); [refs](#); [listen](#); [history](#); [text](#); [internal format](#))

OFFSET 1,1

LINKS [Table of  \$n\$ ,  \$a\(n\)\$  for  \$n=1..47\$ .](#)

PROG (PARI) for(k=1, 3e3, if(ellanalyticrank(ellinit([0, 0, 0, k, 0]))[1]==3, print1(k", ")))  
(Magma) for k in [1..4000] do if Rank(EllipticCurve([0, 0, 0, k, 0])) eq 3 then print k; end if; end for; //  
[Vaclav Kotesovec](#), Jul 08 2019

CROSSREFS Cf. [A002158](#) (rank 0), [A002159](#) (rank 1), [A076329](#) (rank 2), this sequence (rank 3), [A309031](#) (rank 4).

Cf. [A309033](#).

Sequence in context: [A253368](#) [A334182](#) [A033524](#) \* [A337781](#)  
[A340099](#) [A082947](#)

Adjacent sequences: [A309027](#) [A309028](#) [A309029](#) \* [A309031](#)  
[A309032](#) [A309033](#)

KEYWORD nonn

AUTHOR [Seiichi Manyama](#), Jul 08 2019

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