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THE ON-LINE ENCYCLOPEDIA OF INTEGER SEQUENCES[®]

founded in 1964 by N. J. A. Sloane

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

A309031 Numbers k for which rank of the elliptic curve $y^2 = x^3 + kx$ is 4. ⁴

1918, 5190, 6123, 6953, 9603, 10759, 12483, 13398, 14673, 14795,
15910, 15934, 16238, 17753, 18278, 18705, 18814, 20148, 20398,
20658, 23180, 23953, 24475, 25988, 26809, 28633, 29274, 30340,
30688, 31073, 31098, 31174, 32118, 33218, 33278, 34804, 36955,
37214, 37298

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

OFFSET 1,1

LINKS [Table of \$n\$, \$a\(n\)\$ for \$n=1..39\$.](#)

PROG (PARI) for(k=1, 1e4, if(ellanalyticrank(ellinit([0, 0, 0, k, 0]))[1]==4, print1(k", ")))
(Magma) for k in [1..10000] do if Rank(EllipticCurve([0, 0, 0, k, 0])) eq 4 then print k; end if; end for; // [Vaclav Kotesovec](#), Jul 08 2019

CROSSREFS Cf. [A002158](#) (rank 0), [A002159](#) (rank 1), [A076329](#) (rank 2), [A309030](#) (rank 3), this sequence (rank 4).

Cf. [A060953](#), [A309034](#).

Sequence in context: [A163863](#) [A251917](#) [A222928](#) * [A361347](#)
[A077087](#) [A179696](#)

Adjacent sequences: [A309028](#) [A309029](#) [A309030](#) * [A309032](#)
[A309033](#) [A309034](#)

KEYWORD nonn

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

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