

W. Lang Aug 29 2007

Rationals $r(n) = A132049(n)/A132050(n)$, with

$r(n) := 2^n e(n-1)/e(n)$ where $e(n) := A000111(n)$, ("zig-zag" numbers).

See the J.-P. Delahaye reference given in A132049.

Rationals in lowest terms.

$r(n)$, $n=3, \dots, 23$:

[3, 16/5, 25/8, 192/61, 427/136, 4352/1385, 12465/3968, 158720/50521,
555731/176896, 8491008/2702765, 817115/260096, 626311168/199360981,
2990414715/951878656, 60920233984/19391512145, 329655706465/104932671488,
7555152347136/2404879675441, 45692713833379/14544442556416,
232711080902656/74074237647505, 7777794952988025/2475749026562048,
217865914337460224/69348874393137901, 1595024111042171723/507711943253426176,
48740346552328912896/15514534163557086905,
387863354088927172625/123460740095103991808]

The values for $n=1$ and 2 are $r(1)=2$ and $r(2)=4$.

The values $r(10^k)$, $k=0, \dots, 3$ are: (maple11, 10 dgits)

[2., 3.141663863, 3.141592654].

This should be compared with the Pi approximation (maple11, 10 digits)

3.141592654.

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e.o.f.