Conjecture on Poulet numbers of the form 9mn^3+3n^3-15mn^2+6mn-2n^2

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Abstract. In this paper I observe that the formula 9*m*n^3 + 3*n^3 – 15*m*n^2 + 6*m*n – 2*n^2 produces Poulet numbers, and I conjecture that this formula produces an infinite sequence of Poulet numbers for any m non-null positive integer.

Conjecture:

The formula 9*m*n^3 + 3*n^3 – 15*m*n^2 + 6*m*n – 2*n^2 produces an infinite sequence of Poulet numbers for any m non-null positive integer.

Examples:

Formula becomes 12*n^3 – 17*n^2 + 6*n for m = 1 and we have the following sequence of Poulet numbers P = 12*n^3 – 17*n^2 + 6*n (obtained for n = 5, 11, 23, 29, 35, 65, 71, ...):
: 1105, 13981, 137149, 278545, 493885, 3224065, 4209661 (...)

Note that all the solutions obtained for n so far (up to n = 71) are of the form 6k – 1.

Formula becomes 21*n^3 – 32*n^2 + 12*n for m = 2 and we have the following sequence of Poulet numbers P = 21*n^3 – 32*n^2 + 12*n (obtained for n = 65, ...):
: 5632705 (...)

Formula becomes 30*n^3 – 47*n^2 + 18*n for m = 3 and we have the following sequence of Poulet numbers P = 30*n^3 – 47*n^2 + 18*n (obtained for n = 23, 43, 53, 103, ...):
: 340561, 2299081, 4335241, 32285041 (...)

Note that all the solutions obtained for n so far (up to n = 103) are of the form 10k + 3.

Formula becomes 39*n^3 – 62*n^2 + 24*n for m = 4 and we have the following sequence of Poulet numbers P = 39*n^3 – 62*n^2 + 24*n (obtained for n = 43, ...):
: 2987167 (...)

Formula becomes 48*n^3 - 77*n^2 + 30*n for m = 5 and we have the following sequence of Poulet numbers P = 48*n^3 - 77*n^2 + 30*n (obtained for n = 29, 37, 77...):
:   1106785, 2327041, 21459361 (...)

Note that all the solutions obtained for n so far (up to n = 77) are of the form 8k + 5.