Two conjectures on Poulet numbers of the form $mn^2+11mn-23n+19m-49$

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Abstract. In this paper I observe that the formula $m*n^2 + 11*m*n - 23*n + 19*m - 49$ produces Poulet numbers, and I conjecture that this formula produces an infinite sequence of Poulet numbers for any $m$ non-null positive integer, respectively for any $n$ non-null positive integer.

Conjecture 1:

The formula $m*n^2 + 11*m*n - 23*n + 19*m - 49$ produces an infinite sequence of Poulet numbers for any $n$ non-null positive integer.

Examples:

Formula becomes $31*m - 72$ for $n = 1$ and we have the following sequence of Poulet numbers $P = 31*m - 72$ (obtained for $m = 259, 367, 5111$): 7957, 11305, 158369 (...)

Formula becomes $45*m - 95$ for $n = 2$ and we have the following sequence of Poulet numbers $P = 45*m - 95$ (obtained for $m = 888, 928, 2384$): 39865, 41665, 107185 (...)

Formula becomes $61*m - 118$ for $n = 3$ and we have the following sequence of Poulet numbers $P = 61*m - 118$ (obtained for $m = 329, 379$): 19951, 23001 (...)

Formula becomes $99*m - 164$ for $n = 5$ and we have the following sequence of Poulet numbers $P = 99*m - 164$ (obtained for $m = 319, 659, 1387$): 31417, 65077, 137149 (...)

Conjecture 2:

The formula $m*n^2 + 11*m*n - 23*n + 19*m - 49$ produces an infinite sequence of Poulet numbers for any $m$ non-null positive integer.

Examples:
Formula becomes $3n^2 + 10n + 8$ for $m = 3$ and we have the following sequence of Poulet numbers $P = 3n^2 + 10n + 8$ (obtained for $n = 9, 13, 27, 29, 35, 41, 51, 71, 91, 101, 149, 165$):
: 341, 645, 2465, 2821, 4033, 5461, 8321, 15841, 25761, 31621, 68101, 83333 (...)

Formula becomes $4n^2 + 21n + 27$ for $m = 4$ and we have the following sequence of Poulet numbers $P = 4n^2 + 21n + 27$ (obtained for $n = 14, 16, 20, 26, 38, 56, 62, 68, 86, 134, 142, 146, 148$):
: 1105, 1387, 2047, 3277, 6601, 13747, 16705, 19951, 31417, 83665, 88357, 90751 (...