Conjecture that states that numbers 4n^2+8n+3 are Fermat pseudoprimes to base 2n+2

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Abstract. In this paper I conjecture that any number of the form $4*n^2 + 8*n + 3$, where n is positive integer, is Fermat pseudoprime to base $2*n + 2$.

Conjecture:

Any number of the form $a(n) = 4*n^2 + 8*n + 3$, where n is positive integer, is Fermat pseudoprime to base $2*n + 2$.

Verifying the conjecture:
(for the first fifteen values of n)

: a(1) = 15 which is indeed pseudoprime to base 4;

: a(2) = 35 which is indeed pseudoprime to base 6;

: a(3) = 63 which is indeed pseudoprime to base 8;

: a(4) = 99 which is indeed pseudoprime to base 10;

: a(5) = 143 which is indeed pseudoprime to base 12;

: a(6) = 195 which is indeed pseudoprime to base 14;

: a(7) = 255 which is indeed pseudoprime to base 16;

: a(8) = 323 which is indeed pseudoprime to base 18;

: a(9) = 399 which is indeed pseudoprime to base 20;

: a(10) = 483 which is indeed pseudoprime to base 22;

: a(11) = 575 which is indeed pseudoprime to base 24;

: a(12) = 675 which is indeed pseudoprime to base 26;

: a(13) = 783 which is indeed pseudoprime to base 28;

: a(14) = 899 which is indeed pseudoprime to base 30;

: a(15) = 1023 which is indeed pseudoprime to base 32.