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> #  $X^4 = y^2 + z^2$ ,  $x^4 = y^3 + z^3$ ,  $x^4 = y^4 + z^4 + w^4 + v^4$  by H·E 2019 – 11 – 16 :
> c := 0 : for x from 2 to 20 do for y from 1 to 300 do for z from y to 300 do if  $x^4 = y^2 + z^2$ 
  then c := c + 1 : print( [x[ ]^4 = y[ ]^2 + z[ ]^2][H·E[No = c]] ) fi:od:od:od:
    [5^4 = 7^2 + 24^2 ]_{H·E_{No=1}}
    [5^4 = 15^2 + 20^2 ]_{H·E_{No=2}}
    [10^4 = 28^2 + 96^2 ]_{H·E_{No=3}}
    [10^4 = 60^2 + 80^2 ]_{H·E_{No=4}}
    [13^4 = 65^2 + 156^2 ]_{H·E_{No=5}}
    [13^4 = 119^2 + 120^2 ]_{H·E_{No=6}}
    [15^4 = 63^2 + 216^2 ]_{H·E_{No=7}}
    [15^4 = 135^2 + 180^2 ]_{H·E_{No=8}}
    [17^4 = 136^2 + 255^2 ]_{H·E_{No=9}}
    [17^4 = 161^2 + 240^2 ]_{H·E_{No=10}}

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(1)

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> c := 0 : for x from 2 to 20 do for y from 1 to 100 do for z from y to 100 do if  $x^4 = y^3 + z^3$ 
  then c := c + 1 : print( [x[ ]^4 = y[ ]^3 + z[ ]^3][H·E[No = c]] ) fi:od:od:od:
    [2^4 = 2^3 + 2^3 ]_{H·E_{No=1}}
    [9^4 = 9^3 + 18^3 ]_{H·E_{No=2}}
    [16^4 = 32^3 + 32^3 ]_{H·E_{No=3}}

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(2)

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> c := 0 : for x from 2 to 20 do for y from 1 to 100 do for z from y to 100 do for w from z
  to 100 do if  $x^4 = y^4 + z^4 + w^3$  then c := c + 1 : print( [x[ ]^4 = y[ ]^4 + z[ ]^4
  + w[ ]^3][H·E[No = c]] ) fi:od:od:od:od:
    [3^4 = 1^4 + 2^4 + 4^3 ]_{H·E_{No=1}}

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(3)

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