

```

> #  $n^2 + (n+1)^2 + (n+2)^2 = \text{prime}$  by  $H \cdot E' 20 - 5 - 19 :$ 
> c := 0 : for n from 1 to 100000 do if isprime( $n^2 + (n+1)^2 + (n+2)^2$ ) then c := c + 1 :
   if (c mod 100 ≤ 10) and c ≤ 1000 then print([ $n^2 + (n+1)^2 + (n+2)^2 = \text{prime}$ ] [ $H \cdot E$ ] (c)) fi fi:od:
   [ $2^2 + 3^2 + 4^2 = \text{prime}_{H \cdot E}(1)$ ]
   [ $6^2 + 7^2 + 8^2 = \text{prime}_{H \cdot E}(2)$ ]
   [ $12^2 + 13^2 + 14^2 = \text{prime}_{H \cdot E}(3)$ ]
   [ $14^2 + 15^2 + 16^2 = \text{prime}_{H \cdot E}(4)$ ]
   [ $24^2 + 25^2 + 26^2 = \text{prime}_{H \cdot E}(5)$ ]
   [ $34^2 + 35^2 + 36^2 = \text{prime}_{H \cdot E}(6)$ ]
   [ $52^2 + 53^2 + 54^2 = \text{prime}_{H \cdot E}(7)$ ]
   [ $56^2 + 57^2 + 58^2 = \text{prime}_{H \cdot E}(8)$ ]
   [ $62^2 + 63^2 + 64^2 = \text{prime}_{H \cdot E}(9)$ ]
   [ $66^2 + 67^2 + 68^2 = \text{prime}_{H \cdot E}(10)$ ]
   [ $1262^2 + 1263^2 + 1264^2 = \text{prime}_{H \cdot E}(100)$ ]
   [ $1274^2 + 1275^2 + 1276^2 = \text{prime}_{H \cdot E}(101)$ ]
   [ $1276^2 + 1277^2 + 1278^2 = \text{prime}_{H \cdot E}(102)$ ]
   [ $1284^2 + 1285^2 + 1286^2 = \text{prime}_{H \cdot E}(103)$ ]
   [ $1312^2 + 1313^2 + 1314^2 = \text{prime}_{H \cdot E}(104)$ ]
   [ $1326^2 + 1327^2 + 1328^2 = \text{prime}_{H \cdot E}(105)$ ]
   [ $1332^2 + 1333^2 + 1334^2 = \text{prime}_{H \cdot E}(106)$ ]
   [ $1354^2 + 1355^2 + 1356^2 = \text{prime}_{H \cdot E}(107)$ ]
   [ $1364^2 + 1365^2 + 1366^2 = \text{prime}_{H \cdot E}(108)$ ]
   [ $1374^2 + 1375^2 + 1376^2 = \text{prime}_{H \cdot E}(109)$ ]
   [ $1386^2 + 1387^2 + 1388^2 = \text{prime}_{H \cdot E}(110)$ ]
   [ $2802^2 + 2803^2 + 2804^2 = \text{prime}_{H \cdot E}(200)$ ]
   [ $2806^2 + 2807^2 + 2808^2 = \text{prime}_{H \cdot E}(201)$ ]
   [ $2824^2 + 2825^2 + 2826^2 = \text{prime}_{H \cdot E}(202)$ ]
   [ $2862^2 + 2863^2 + 2864^2 = \text{prime}_{H \cdot E}(203)$ ]
   [ $2872^2 + 2873^2 + 2874^2 = \text{prime}_{H \cdot E}(204)$ ]
   [ $2884^2 + 2885^2 + 2886^2 = \text{prime}_{H \cdot E}(205)$ ]
   [ $2912^2 + 2913^2 + 2914^2 = \text{prime}_{H \cdot E}(206)$ ]
   [ $3016^2 + 3017^2 + 3018^2 = \text{prime}_{H \cdot E}(207)$ ]

```

$$\begin{aligned}[3034]^2 + [3035]^2 + [3036]^2 &= prime_{H \cdot E}(208) \\ [3036]^2 + [3037]^2 + [3038]^2 &= prime_{H \cdot E}(209) \\ [3064]^2 + [3065]^2 + [3066]^2 &= prime_{H \cdot E}(210) \\ [4604]^2 + [4605]^2 + [4606]^2 &= prime_{H \cdot E}(300) \\ [4626]^2 + [4627]^2 + [4628]^2 &= prime_{H \cdot E}(301) \\ [4632]^2 + [4633]^2 + [4634]^2 &= prime_{H \cdot E}(302) \\ [4662]^2 + [4663]^2 + [4664]^2 &= prime_{H \cdot E}(303) \\ [4704]^2 + [4705]^2 + [4706]^2 &= prime_{H \cdot E}(304) \\ [4706]^2 + [4707]^2 + [4708]^2 &= prime_{H \cdot E}(305) \\ [4716]^2 + [4717]^2 + [4718]^2 &= prime_{H \cdot E}(306) \\ [4742]^2 + [4743]^2 + [4744]^2 &= prime_{H \cdot E}(307) \\ [4772]^2 + [4773]^2 + [4774]^2 &= prime_{H \cdot E}(308) \\ [4776]^2 + [4777]^2 + [4778]^2 &= prime_{H \cdot E}(309) \\ [4832]^2 + [4833]^2 + [4834]^2 &= prime_{H \cdot E}(310) \\ [6244]^2 + [6245]^2 + [6246]^2 &= prime_{H \cdot E}(400) \\ [6246]^2 + [6247]^2 + [6248]^2 &= prime_{H \cdot E}(401) \\ [6254]^2 + [6255]^2 + [6256]^2 &= prime_{H \cdot E}(402) \\ [6256]^2 + [6257]^2 + [6258]^2 &= prime_{H \cdot E}(403) \\ [6272]^2 + [6273]^2 + [6274]^2 &= prime_{H \cdot E}(404) \\ [6282]^2 + [6283]^2 + [6284]^2 &= prime_{H \cdot E}(405) \\ [6292]^2 + [6293]^2 + [6294]^2 &= prime_{H \cdot E}(406) \\ [6306]^2 + [6307]^2 + [6308]^2 &= prime_{H \cdot E}(407) \\ [6334]^2 + [6335]^2 + [6336]^2 &= prime_{H \cdot E}(408) \\ [6356]^2 + [6357]^2 + [6358]^2 &= prime_{H \cdot E}(409) \\ [6372]^2 + [6373]^2 + [6374]^2 &= prime_{H \cdot E}(410) \\ [7744]^2 + [7745]^2 + [7746]^2 &= prime_{H \cdot E}(500) \\ [7756]^2 + [7757]^2 + [7758]^2 &= prime_{H \cdot E}(501) \\ [7766]^2 + [7767]^2 + [7768]^2 &= prime_{H \cdot E}(502) \\ [7776]^2 + [7777]^2 + [7778]^2 &= prime_{H \cdot E}(503) \\ [7786]^2 + [7787]^2 + [7788]^2 &= prime_{H \cdot E}(504) \\ [7794]^2 + [7795]^2 + [7796]^2 &= prime_{H \cdot E}(505) \\ [7842]^2 + [7843]^2 + [7844]^2 &= prime_{H \cdot E}(506)\end{aligned}$$

$$\begin{aligned}[7856]^2 + [7857]^2 + [7858]^2 &= prime_{H \cdot E}(507) \\ [7866]^2 + [7867]^2 + [7868]^2 &= prime_{H \cdot E}(508) \\ [7896]^2 + [7897]^2 + [7898]^2 &= prime_{H \cdot E}(509) \\ [7912]^2 + [7913]^2 + [7914]^2 &= prime_{H \cdot E}(510) \\ [9506]^2 + [9507]^2 + [9508]^2 &= prime_{H \cdot E}(600) \\ [9534]^2 + [9535]^2 + [9536]^2 &= prime_{H \cdot E}(601) \\ [9544]^2 + [9545]^2 + [9546]^2 &= prime_{H \cdot E}(602) \\ [9554]^2 + [9555]^2 + [9556]^2 &= prime_{H \cdot E}(603) \\ [9576]^2 + [9577]^2 + [9578]^2 &= prime_{H \cdot E}(604) \\ [9592]^2 + [9593]^2 + [9594]^2 &= prime_{H \cdot E}(605) \\ [9606]^2 + [9607]^2 + [9608]^2 &= prime_{H \cdot E}(606) \\ [9656]^2 + [9657]^2 + [9658]^2 &= prime_{H \cdot E}(607) \\ [9672]^2 + [9673]^2 + [9674]^2 &= prime_{H \cdot E}(608) \\ [9686]^2 + [9687]^2 + [9688]^2 &= prime_{H \cdot E}(609) \\ [9694]^2 + [9695]^2 + [9696]^2 &= prime_{H \cdot E}(610) \\ [11504]^2 + [11505]^2 + [11506]^2 &= prime_{H \cdot E}(700) \\ [11506]^2 + [11507]^2 + [11508]^2 &= prime_{H \cdot E}(701) \\ [11524]^2 + [11525]^2 + [11526]^2 &= prime_{H \cdot E}(702) \\ [11546]^2 + [11547]^2 + [11548]^2 &= prime_{H \cdot E}(703) \\ [11552]^2 + [11553]^2 + [11554]^2 &= prime_{H \cdot E}(704) \\ [11556]^2 + [11557]^2 + [11558]^2 &= prime_{H \cdot E}(705) \\ [11604]^2 + [11605]^2 + [11606]^2 &= prime_{H \cdot E}(706) \\ [11606]^2 + [11607]^2 + [11608]^2 &= prime_{H \cdot E}(707) \\ [11622]^2 + [11623]^2 + [11624]^2 &= prime_{H \cdot E}(708) \\ [11682]^2 + [11683]^2 + [11684]^2 &= prime_{H \cdot E}(709) \\ [11692]^2 + [11693]^2 + [11694]^2 &= prime_{H \cdot E}(710) \\ [13592]^2 + [13593]^2 + [13594]^2 &= prime_{H \cdot E}(800) \\ [13594]^2 + [13595]^2 + [13596]^2 &= prime_{H \cdot E}(801) \\ [13606]^2 + [13607]^2 + [13608]^2 &= prime_{H \cdot E}(802) \\ [13624]^2 + [13625]^2 + [13626]^2 &= prime_{H \cdot E}(803) \\ [13636]^2 + [13637]^2 + [13638]^2 &= prime_{H \cdot E}(804) \\ [13664]^2 + [13665]^2 + [13666]^2 &= prime_{H \cdot E}(805)\end{aligned}$$

$$\begin{aligned}
[13676]^2 + [13677]^2 + [13678]^2 &= prime_{H,E}(806) \\
[13692]^2 + [13693]^2 + [13694]^2 &= prime_{H,E}(807) \\
[13702]^2 + [13703]^2 + [13704]^2 &= prime_{H,E}(808) \\
[13772]^2 + [13773]^2 + [13774]^2 &= prime_{H,E}(809) \\
[13786]^2 + [13787]^2 + [13788]^2 &= prime_{H,E}(810) \\
[15584]^2 + [15585]^2 + [15586]^2 &= prime_{H,E}(900) \\
[15596]^2 + [15597]^2 + [15598]^2 &= prime_{H,E}(901) \\
[15606]^2 + [15607]^2 + [15608]^2 &= prime_{H,E}(902) \\
[15616]^2 + [15617]^2 + [15618]^2 &= prime_{H,E}(903) \\
[15622]^2 + [15623]^2 + [15624]^2 &= prime_{H,E}(904) \\
[15634]^2 + [15635]^2 + [15636]^2 &= prime_{H,E}(905) \\
[15652]^2 + [15653]^2 + [15654]^2 &= prime_{H,E}(906) \\
[15686]^2 + [15687]^2 + [15688]^2 &= prime_{H,E}(907) \\
[15692]^2 + [15693]^2 + [15694]^2 &= prime_{H,E}(908) \\
[15694]^2 + [15695]^2 + [15696]^2 &= prime_{H,E}(909) \\
[15696]^2 + [15697]^2 + [15698]^2 &= prime_{H,E}(910) \\
[17246]^2 + [17247]^2 + [17248]^2 &= prime_{H,E}(1000)
\end{aligned} \tag{1}$$

>