# First Track Results

| Number | Solution | | | | Time | | | |
|---|---|---|---|---|---|---|---|---|
| | Standard Matiasevich | Finite Matiasevich | Z3solver | Cvc4 | Standard Matiasevich | Finite Matiasevich | Z3solver | Cvc4 |
| 1 | true | true | true | true | 106.661 µs | 189.441 µs | 0.02s | 0.007532000s |
| 2 | true | true | true | true | 353.63µs | 463.216 µs | 0.04s | 0.032916000s |
| 3 | true | true | true | true | 4.157415 ms | 5.12967 ms | 0.08s | 0.017316000s |
| 4 | true | true | true | true | 205.368 µs | 222.137 µs | 0.02s | 0.008536000s |
| 5 | true | true | true | true | 518.442 µs | 980.037 µs | 0.01s | 0.019639000s |
| 6 | true | true | true | true | 106.385043ms | 14.712797ms | 1.13s | 0.061502000s |
| 7 | true | true | true | true | 17.99103075s | 5.231016677s | 9.89s | 0.016935000s |
| 8 | true | true | timeout | true | 457.013 µs | 676.623 µs | 118.97s | 0.012965000s |
| 9 | true | true | true | true | 29.784125ms | 15.861511ms | 0.38s | 0.014203000s |
| 10 | true | true | true | true | 5.029232 ms | 3.005986 ms | 0.03s | 0.037021000s |
| 11 | true | true | true | true | 162.117297ms | 73.909308ms | 0.39s | 0.039515000s |
| 12 | true | true | true | true | 34.447622ms | 3.644059 ms | 0.02s | 0.036716000s |
| 13 | true | true | true | true | 16.194221ms | 1.493393 ms | 0.01s | 0.015251000s |
| 14 | true | true | true | true | 547µs | 364.149 µs | 0.02s | 0.013493000s |
| 15 | true | true | true | true | 2.41569 ms | 553.958 µs | 0.04s | 0.015670000s |
| 16 | true | true | true | true | 157.555318ms | 123.796126ms | 0.14ms | 0.021897000s |
| 17 | true | true | true | timeout | 138.330059ms | 15.004203ms | 0.34s | 132.961911000s |
| 18 | true | true | true | true | 7.585609 ms | 3.641737 ms | 0.01s | 0.014191000s |
| 19 | true | true | true | true | 34.970455ms | 1.53665 ms | 0.01s | 0.010715000s |
| 20 | true | true | true | true | 681.544 µs | 726.338 µs | 0.02s | 0.013311000s |
| 21 | true | true | true | true | 26.514713ms | 2.152822 ms | 0.01s | 0.010301000s |
| 22 | true | true | true | true | 629.676 µs | 921.456 µs | 0.04s | 0.016038000s |

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|---|---|---|---|---|---|---|---|---|
| 23 | true | true | true | true | 253.623 µs | 318.263 µs | 0.02s | 0.031962 000s |
| 24 | true | true | true | true | 117.5530 6ms | 60.94773 2ms | 1.06s | 0.022039 000s |
| 25 | true | true | true | true | 1.409841 401s | 24.15059 7ms | 0.37s | 0.020790 000s |
| 26 | true | true | true | true | 345.591 µs | 672.151 µs | 0.02s | 0.015264 000s |
| 27 | true | true | true | true | 1.475536 ms | 226.032 µs | 0.02s | 0.009852 000s |
| 28 | true | true | true | true | 42.72944 7ms | 3.728211 ms | 0.02s | 0.023850 000s |
| 29 | true | true | true | true | 43.89697 5ms | 18.87791 7ms | 0.69s | 0.023527 000s |
| 30 | true | true | true | true | 447.359 µs | 370.384 µs | 0.02s | 0.021587 000s |
| 31 | true | true | true | true | 13.10593 2ms | 1.976702 ms | 0.01s | 0.007623 000s |
| 32 | true | true | true | true | 18.3071 ms | 3.080227 ms | 0.08s | 0.013677 000s |
| 33 | true | true | true | true | 92.04674 3ms | 46.56131 7ms | 0.02s | 0.018657 000s |
| 34 | true | true | true | true | 552.572 µs | 379.324 µs | 0.04s | 0.013444 000s |
| 35 | true | true | true | true | 134.7278 68ms | 8.109951 ms | 0.02s | 0.027134 000s |
| 36 | true | true | timeout | true | 2.088579 ms | 3.026425 ms | 119.26s | 0.034590 000s |
| 37 | true | true | true | true | 75.98179 5ms | 6.649017 ms | 0.02s | 0.015113 000s |
| 38 | true | true | true | true | 3.233968 864s | 154.7425 89ms | 2.72s | 0.020962 000s |
| 39 | true | true | true | true | 72.82149 2ms | 25.47252 1ms | 0.03s | 0.015930 000s |
| 40 | true | true | true | true | 570.601 µs | 709.621 µs | 0.02s | 0.014967 000s |
| 41 | true | true | true | true | 31.61208 9ms | 3.188843 ms | 0.01s | 0.010621 000s |
| 42 | true | true | timeout | timeout | 11.30003 6ms | 2.489283 ms | 119.19s | 136.7882 58000s |
| 43 | true | true | true | timeout | 25.77746 5ms | 24.34619 1ms | 4.22s | 132.3208 18000s |
| 44 | true | true | true | true | 201.729 µs | 111.749 µs | 0.01s | 0.004301 000s |
| 45 | true | true | true | true | 2.396671 ms | 2.521988 ms | 0.01s | 0.014759 000s |
| 46 | true | true | true | true | 972.14µs | 874.845 µs | 0.06s | 0.020472 000s |
| 47 | true | true | true | true | 11.16136 2ms | 875.067 µs | 0.02s | 0.020181 000s |

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|---|---|---|---|---|---|---|---|---|
| 48 | true | true | true | true | 648.075 µs | 219.75µs | 0.01s | 0.009690 000s |
| 49 | true | true | true | true | 24.941862ms | 2.195982 ms | 0.01s | 0.007993 000s |
| 50 | true | true | true | timeout | 8.498165 ms | 6.229003 ms | 1.59s | 126.2497 69000s |
| 51 | true | true | true | true | 27.53101 ms | 4.886364 ms | 0.02s | 0.010710 000s |
| 52 | true | true | true | true | 62.792869ms | 4.156843 ms | 0.01s | 0.008192 000s |
| 53 | true | true | true | true | 15.28362 ms | 6.965706 ms | 1.83s | 0.071848 000s |
| 54 | true | true | true | true | 164.060008ms | 15.671911ms | 0.02s | 0.034211 000s |
| 55 | true | true | true | true | 35.845966ms | 29.151923ms | 0.72s | 0.020726 000s |
| 56 | true | true | true | true | 19.924418ms | 8.536029 ms | 0.06s | 0.014764 000s |
| 57 | true | true | true | true | 7.287619 ms | 1.152129 ms | 0.01s | 0.010649 000s |
| 58 | true | true | true | true | 4.471101 254s | 157.2398 3ms | 2.88s | 0.014218 000s |
| 59 | true | true | true | true | 88.433764ms | 5.344188 ms | 0.02s | 0.015433 000s |
| 60 | true | true | true | true | 22.594306ms | 1.803891 ms | 0.05s | 0.017782 000s |
| 61 | true | true | true | true | 417.587 µs | 478.128 µs | 0.01s | 0.011005 000s |
| 62 | true | true | true | true | 171.718169ms | 13.381094ms | 0.01s | 0.008743 000s |
| 63 | true | true | true | true | 18.154432244s | 727.855186ms | 3.10s | 0.015282 000s |
| 64 | true | true | true | true | 1.085875 ms | 1.908827 ms | 0.05s | 0.020220 000s |
| 65 | true | true | true | true | 38.987248ms | 18.055532ms | 0.25s | 0.016085 000s |
| 66 | true | true | true | true | 247.282 µs | 420.883 µs | 0.02s | 0.015522 000s |
| 67 | true | true | true | true | 13.403739ms | 3.512665 ms | 0.09s | 0.018501 000s |
| 68 | true | true | true | true | 2.487782 429s | 21.143382ms | 0.01s | 0.010497 000s |
| 69 | true | true | true | true | 170.103496ms | 43.05946 ms | 0.17s | 0.024379 000s |
| 70 | true | true | true | true | 1.030134 ms | 2.611271 ms | 0.06s | 0.017880 000s |
| 71 | true | true | true | true | 36.905416ms | 2.968195 ms | 0.02s | 0.042132 000s |
| 72 | true | true | true | true | 1.099068 ms | 2.145574 ms | 0.07s | 0.018329 000s |

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|---|---|---|---|---|---|---|---|---|
| 73 | true | true | true | true | 857.648336ms | 23.300838ms | 0.01s | 0.010767000s |
| 74 | true | true | true | true | 20.401461537s | 4.47151924s | 67.67s | 0.014161000s |
| 75 | true | true | true | true | 17.9887 ms | 4.474739 ms | 0.01s | 0.010644000s |
| 76 | true | true | true | true | 249.064 µs | 440.627 µs | 0.02s | 0.010884000s |
| 77 | true | true | true | true | 2m31.392588133s | 801.092992ms | 0.61s | 0.023962000s |
| 78 | true | true | true | true | 101.954175ms | 5.981237 ms | 0.01s | 0.007796000s |
| 79 | true | true | true | true | 82.650263ms | 4.770905 ms | 0.01s | 0.011394000s |
| 80 | true | true | true | true | 362.357 µs | 443.857 µs | 0.02s | 0.011013000s |
| 81 | true | true | true | true | 843.078 µs | 719.725 µs | 0.01s | 0.012471000s |
| 82 | true | true | true | timeout | 87.413902ms | 19.450159ms | 10.08s | 124.726086000s |
| 83 | true | true | true | true | 183.198 µs | 225.713 µs | 0.01s | 0.014203000s |
| 84 | true | true | true | true | 33.776944ms | 12.333447ms | 0.08s | 0.014830000s |
| 85 | true | true | true | true | 333.281 µs | 707.03µs | 0.01s | 0.010000000s |
| 86 | true | true | true | true | 360.002 µs | 833.867 µs | 0.01s | 0.009594000s |
| 87 | true | true | true | true | 54.560814ms | 25.299496ms | 0.02s | 0.021119000s |
| 88 | true | true | true | true | 878.705 µs | 872.322 µs | 0.04s | 0.018416000s |
| 89 | true | true | true | true | 8.42747 ms | 918.87µs | 0.01s | 0.011820000s |
| 90 | true | true | true | true | 1.222671961s | 27.827761ms | 0.01s | 0.012874000s |
| 91 | true | true | true | true | 1.562841 ms | 1.604162 ms | 0.01s | 0.014814000s |
| 92 | true | true | true | true | 120.031 µs | 186.947 µs | 0.01s | 0.017140000s |
| 93 | true | true | true | true | 288.757 µs | 579.959 µs | 0.01s | 0.015693000s |
| 94 | true | true | true | true | 66.63902 ms | 6.950106 ms | 0.02s | 0.008406000s |
| 95 | true | true | true | true | 218.647 µs | 372.182 µs | 0.03s | 0.013351000s |
| 96 | true | true | true | true | 133.581452ms | 34.76468 ms | 0.03s | 0.017323000s |
| 97 | true | true | true | true | 697.737 µs | 1.669459 ms | 0.02s | 0.010236000s |

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|---|---|---|---|---|---|---|---|---|
| 98 | true | true | true | true | 2.189313 64s | 29.30763 4ms | 0.01ms | 0.010769 000s |
| 99 | true | true | true | true | 1.209848 ms | 3.070926 ms | 0.02ms | 0.011317 000s |
| 100 | true | true | timeout | timeout | 36.78504 1ms | 20.80873 9ms | 114.14s | 122.3549 44000s |
| 101 | true | true | timeout | true | 2.224608 ms | 2.236167 ms | 118.98s | 0.021553 000s |
| 102 | true | true | true | true | 219.591 µs | 256.176 µs | 0.02s | 0.010033 000s |
| 103 | true | true | true | true | 36.08037 4ms | 3.773451 ms | 0.02s | 0.010888 000s |
| 104 | true | true | true | true | 4.159073 ms | 1.476401 ms | 0.09s | 0.014544 000s |
| 105 | true | true | true | true | 126.422 µs | 130.93µs | 0.03s | 0.011643 000s |
| 106 | true | true | true | true | 2.017992 ms | 2.027881 ms | 0.03s | 0.016607 000s |
| 107 | true | true | true | true | 10.92997 2ms | 1.216808 ms | 0.02s | 0.010926 000s |
| 108 | true | true | true | true | 115.6220 54ms | 6.751241 ms | 0.03s | 0.008687 000s |
| 109 | true | true | true | true | 3.511059 338s | 3.327179 183s | 32.15s | 0.037511 000s |
| 110 | true | true | true | true | 5.375374 ms | 3.464242 ms | 0.06s | 0.020822 000s |
| 111 | true | true | true | timeout | 5.450395 528s | 144.4790 16ms | 26.89s | 122.5085 56000s |
| 112 | true | true | true | true | 217.959 µs | 108.617 µs | 0.02s | 0.013622 000s |
| 113 | true | true | true | true | 14.72206 5ms | 5.30725 ms | 0.03s | 0.039913 000s |
| 114 | true | true | true | true | 13.37584 ms | 1.380976 ms | 0.02s | 0.023324 000s |
| 115 | true | true | true | true | 320.836 µs | 398.914 µs | 0.02s | 0.026625 000s |
| 116 | true | true | true | true | 53.67875 ms | 12.93729 7ms | 0.17s | 0.030194 000s |
| 117 | true | true | true | true | 35.09108 6ms | 3.554388 ms | 0.05s | 0.023813 000s |
| 118 | true | true | true | true | 109.2441 79ms | 8.930575 ms | 0.02s | 0.019778 000s |
| 119 | true | true | true | true | 38.092µs | 53.276µs | 0.02s | 0.017437 000s |
| 120 | true | true | true | true | 3.870738 965s | 214.4943 61ms | 38.78s | 0.049490 000s |
| 121 | true | true | true | true | 72.93757 9ms | 4.160338 ms | 0.02s | 0.017254 000s |
| 122 | true | true | timeout | true | 1.824054 ms | 2.22136 ms | 101.72s | 0.020964 000s |

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|---|---|---|---|---|---|---|---|---|
| 123 | true | true | true | true | 147.995669ms | 17.52066ms | 0.40s | 0.089938000s |
| 124 | true | true | true | true | 107.709821ms | 11.566279ms | 0.01s | 0.014090000s |
| 125 | true | true | true | true | 6.721103895s | 128.015126ms | 4.30s | 0.017170000s |
| 126 | true | true | true | true | 1.577067ms | 888.08µs | 0.04s | 0.016994000s |
| 127 | true | true | true | true | 5.776557ms | 851.34µs | 0.01s | 0.010948000s |
| 128 | true | true | true | true | 31.517µs | 119.59µs | 0.01s | 0.003316000s |
| 129 | true | true | true | true | 43.779µs | 119.793µs | 0.01s | 0.003504000s |
| 130 | true | true | true | true | 170.135µs | 556.873µs | 0.01s | 0.007548000s |
| 131 | true | true | timeout | true | 47.720129ms | 7.34146ms | 112.63s | 0.016858000s |
| 132 | true | true | true | true | 71.406539ms | 30.060291ms | 4.15s | 0.015338000s |
| 133 | true | true | timeout | true | 5.012479441s | 28.051157ms | 113.29s | 0.022732000s |
| 134 | true | true | true | true | 5.291871ms | 46.685607ms | 0.01s | 0.013224000s |
| 135 | true | true | timeout | timeout | 17.373743008s | 5.899381ms | 112.49s | 122.426274000s |
| 136 | true | true | true | true | 509.997µs | 520.571µs | 0.02s | 0.010221000s |
| 137 | true | true | true | true | 1.17322ms | 1.110815ms | 0.06s | 0.016900000s |
| 138 | true | true | true | true | 11.970153ms | 5.064699ms | 0.13s | 0.013599000s |
| 139 | true | true | timeout | true | 113.926473ms | 50.348602ms | 108.99s | 0.018792000s |
| 140 | true | true | true | true | 313.098µs | 343.036µs | 0.05s | 0.033220000s |
| 141 | true | true | true | true | 47.15745ms | 2.085524ms | 0.10s | 0.048380000s |
| 142 | true | true | true | true | 27.587691ms | 2.133819ms | 0.02s | 0.013659000s |
| 143 | true | true | true | true | 46.227341ms | 6.297422ms | 0.99s | 0.021720000s |
| 144 | true | true | true | true | 913.005µs | 787.833µs | 0.02s | 0.013109000s |
| 145 | true | true | true | true | 641.164µs | 372.716µs | 0.08s | 0.014485000s |
| 146 | true | true | true | true | 369.562µs | 421.207µs | 0.02s | 0.007247000s |
| 147 | true | true | true | true | 1.672595ms | 1.492311ms | 0.13s | 0.014705000s |

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|---|---|---|---|---|---|---|---|---|
| 148 | true | true | true | true | 1.4866ms | 1.836209ms | 1.29s | 0.017281000s |
| 149 | true | true | true | true | 367.934µs | 349.943µs | 0.03s | 0.018455000s |
| 150 | true | true | true | true | 1.160957ms | 572.173µs | 0.06s | 0.011965000s |
| 151 | true | true | true | true | 111.603667ms | 63.021421ms | 0.95s | 0.016098000s |
| 152 | true | true | true | true | 9.023626302s | 65.757155ms | 0.02s | 0.011005000s |
| 153 | true | true | true | true | 56.584351ms | 22.693548ms | 0.10s | 0.013819000s |
| 154 | true | true | true | true | 104.12µs | 151.246µs | 0.02s | 0.009657000s |
| 155 | true | true | true | true | 8.961096ms | 1.465226ms | 0.02s | 0.009286000s |
| 156 | true | true | true | true | 1.741116708s | 166.597234ms | 18.29s | 0.014819000s |
| 157 | true | true | true | true | 52.307407ms | 5.049623ms | 0.02s | 0.013955000s |
| 158 | true | true | true | true | 719.208µs | 2.190147ms | 0.03s | 0.022111000s |
| 159 | true | true | true | true | 19.379399ms | 2.840651ms | 0.08s | 0.028732000s |
| 160 | true | true | true | true | 22.714138ms | 2.002033ms | 0.02s | 0.009099000s |
| 161 | true | true | true | true | 2.58358ms | 2.06189ms | 0.06s | 0.015620000s |
| 162 | true | true | true | true | 43.55683ms | 4.015097ms | 0.21s | 0.018315000s |
| 163 | true | true | true | true | 480.358µs | 629.396µs | 0.02s | 0.016118000s |
| 164 | true | true | true | true | 104.365µs | 196.579µs | 0.02s | 0.015111000s |
| 165 | true | true | true | true | 13.671156ms | 6.443648ms | 0.73s | 0.024621000s |
| 166 | true | true | true | true | 94.147037ms | 8.295927ms | 0.03s | 0.017046000s |
| 167 | true | true | true | true | 51.210905ms | 6.994753ms | 0.13s | 0.021774000s |
| 168 | true | true | true | true | 438.854µs | 699.814µs | 0.02s | 0.010637000s |
| 169 | true | true | true | true | 221.68µs | 336.146µs | 0.04s | 0.028321000s |
| 170 | true | true | true | true | 14.776918ms | 1.27484ms | 0.02s | 0.016488000s |
| 171 | true | true | true | true | 80.740219ms | 5.511047ms | 0.02s | 0.016384000s |
| 172 | true | true | true | true | 6.250966ms | 988.876µs | 0.06s | 0.015072000s |

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|---|---|---|---|---|---|---|---|---|
| 173 | true | true | true | true | 6.902027 ms | 4.031449 ms | 1.31s | 0.013594 000s |
| 174 | true | true | true | true | 86.60926 3ms | 40.89420 3ms | 2.03s | 0.153840 000s |
| 175 | true | true | true | true | 19.23052 6394s | 92.29766 8ms | 0.02s | 0.013214 000s |
| 176 | true | true | true | true | 100.57µs | 152.615 µs | 0.02s | 0.003205 000s |
| 177 | true | true | true | true | 42.64577 8ms | 22.53679 6ms | 41.86s | 0.016551 000s |
| 178 | true | true | true | true | 9.934399 43s | 152.0432 39ms | 0.04s | 0.022391 000s |
| 179 | true | true | true | true | 447.058 µs | 675.929 µs | 0.02s | 0.010024 000s |
| 180 | true | true | true | true | 3.215748 919s | 20.10271 9ms | 0.02s | 0.007764 000s |
| 181 | true | true | true | true | 789.736 µs | 1.034637 ms | 0.02s | 0.009821 000s |
| 182 | true | true | true | true | 270.415 µs | 300.111 µs | 0.06s | 0.021578 000s |
| 183 | true | true | true | true | 4.692921 ms | 1.169325 ms | 0.02s | 0.025383 000s |
| 184 | true | true | true | true | 3.504ms | 1.15261 ms | 0.03s | 0.035523 000s |
| 185 | true | true | true | true | 51.94087 2ms | 2.345351 ms | 0.02s | 0.008822 000s |
| 186 | true | true | true | true | 3.666442 ms | 1.258295 ms | 0.03s | 0.015795 000s |
| 187 | true | true | true | true | 1.133071 ms | 1.213843 ms | 0.13s | 0.072056 000s |
| 188 | true | true | true | true | 2.629774 ms | 2.621995 ms | 0.03s | 0.033252 000s |
| 189 | true | true | true | true | 281.816 µs | 330.072 µs | 0.03s | 0.091290 000s |
| 190 | true | true | true | true | 257.999 µs | 321.125 µs | 0.02s | 0.012093 000s |
| 191 | true | true | true | true | 34.36467 3ms | 3.223441 ms | 0.08s | 0.022334 000s |
| 192 | true | true | true | true | 333.622 µs | 450.297 µs | 0.02s | 0.008397 000s |
| 193 | true | true | true | true | 48.946µs | 93.491µs | 0.02s | 0.004902 000s |
| 194 | true | true | true | true | 1.604356 ms | 515.336 µs | 0.12s | 0.033172 000s |
| 195 | true | true | true | true | 940.709 µs | 727.159 µs | 0.06s | 0.014992 000s |
| 196 | true | true | true | true | 1.986401 ms | 724.287 µs | 0.02s | 0.009411 000s |
| 197 | true | true | true | true | 27.76626 7ms | 2.066607 ms | 0.02s | 0.009407 000s |

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|---|---|---|---|---|---|---|---|---|
| 198 | true | true | true | true | 3.189434 ms | 1.190773 ms | 40.10s | 0.017973 000s |
| 199 | true | true | true | true | 1.936218 ms | 758.751 µs | 0.03s | 0.022865 000s |
| 200 | true | true | true | true | 61.838µs | 104.126 µs | 0.02s | 0.009856 000s |