

$$\text{chi7} = (-11 + x)^2 (-9 + x)^{12} (5 + x)^{32} (-808 + 281x - 30x^2 + x^3) \\ (-11 + x)^2 (-9 + x)^{12} (5 + x)^{32} (-808 + 281x - 30x^2 + x^3)$$

list7 =

$$\begin{aligned} & \{ (-11 + x) (3459 - 1990x + 404x^2 - 34x^3 + x^4), (-11 + x) (-9 + x) (-7 + x) (53 - 18x + x^2), \\ & -36969 + 25157x - 6426x^2 + 778x^3 - 45x^4 + x^5, -36937 + 25157x - \\ & 6426x^2 + 778x^3 - 45x^4 + x^5, (-11 + x) (3355 - 1982x + 404x^2 - 34x^3 + x^4), \\ & (139 - 24x + x^2) (-267 + 135x - 21x^2 + x^3), (-11 + x) \\ & (3371 - 1982x + 404x^2 - 34x^3 + x^4), -37289 + 25189x - 6426x^2 + 778x^3 - 45x^4 + x^5, \\ & (-11 + x) (3387 - 1982x + 404x^2 - 34x^3 + x^4), (-11 + x) (83 - 20x + x^2) (41 - 14x + x^2), \\ & -35825 + 24965x - 6418x^2 + 778x^3 - 45x^4 + x^5, \\ & (-9 + x) (3977 - 2332x + 454x^2 - 36x^3 + x^4), (-7 + x) (139 - 24x + x^2) (37 - 14x + x^2), \\ & -35969 + 24981x - 6418x^2 + 778x^3 - 45x^4 + x^5, (-11 + x) (-9 + x) \\ & (-363 + 179x - 25x^2 + x^3), -36145 + 24997x - 6418x^2 + 778x^3 - 45x^4 + x^5, \\ & (-11 + x) (-7 + x) (-469 + 215x - 27x^2 + x^3), -36321 + 25013x - 6418x^2 + \\ & 778x^3 - 45x^4 + x^5, (-11 + x) (3299 - 1974x + 404x^2 - 34x^3 + x^4), \\ & (-11 + x) (3315 - 1974x + 404x^2 - 34x^3 + x^4), (-11 + x) \\ & (3331 - 1974x + 404x^2 - 34x^3 + x^4), (-11 + x) (3347 - 1974x + 404x^2 - 34x^3 + x^4), \\ & (-9 + x) (3857 - 2324x + 454x^2 - 36x^3 + x^4), (-9 + x) \\ & (3873 - 2324x + 454x^2 - 36x^3 + x^4), -35033 + 24805x - 6410x^2 + 778x^3 - 45x^4 + x^5, \\ & (-9 + x) (3889 - 2324x + 454x^2 - 36x^3 + x^4), -35209 + 24821x - 6410x^2 + \\ & 778x^3 - 45x^4 + x^5, -35177 + 24821x - 6410x^2 + 778x^3 - 45x^4 + x^5, \\ & (-11 + x) (-9 + x) (-355 + 179x - 25x^2 + x^3), -35353 + 24837x - 6410x^2 + \\ & 778x^3 - 45x^4 + x^5, (-11 + x) (3211 - 1966x + 404x^2 - 34x^3 + x^4), \\ & -35529 + 24853x - 6410x^2 + 778x^3 - 45x^4 + x^5, (-11 + x) (-7 + x) \\ & (-461 + 215x - 27x^2 + x^3), (-11 + x) (3243 - 1966x + 404x^2 - 34x^3 + x^4), \\ & (-11 + x) (3259 - 1966x + 404x^2 - 34x^3 + x^4), (-9 + x) \\ & (3769 - 2316x + 454x^2 - 36x^3 + x^4), (-9 + x) (3785 - 2316x + 454x^2 - 36x^3 + x^4), \\ & -34241 + 24645x - 6402x^2 + 778x^3 - 45x^4 + x^5, (-9 + x) \\ & (3801 - 2316x + 454x^2 - 36x^3 + x^4), -34385 + 24661x - 6402x^2 + 778x^3 - 45x^4 + x^5, \\ & (-11 + x) (-9 + x) (-347 + 179x - 25x^2 + x^3), -34561 + 24677x - 6402x^2 + \\ & 778x^3 - 45x^4 + x^5, (-11 + x) (3139 - 1958x + 404x^2 - 34x^3 + x^4), \\ & (-11 + x) (3155 - 1958x + 404x^2 - 34x^3 + x^4), (-11 + x) (-7 + x) \\ & (-453 + 215x - 27x^2 + x^3), (-11 + x) (3187 - 1958x + 404x^2 - 34x^3 + x^4), \\ & (-9 + x) (3697 - 2308x + 454x^2 - 36x^3 + x^4), -33449 + 24485x - 6394x^2 + \\ & 778x^3 - 45x^4 + x^5, (-9 + x) (3713 - 2308x + 454x^2 - 36x^3 + x^4), \\ & -33593 + 24501x - 6394x^2 + 778x^3 - 45x^4 + x^5, (-11 + x) (-9 + x) (-3 + x) \\ & (113 - 22x + x^2), -33769 + 24517x - 6394x^2 + 778x^3 - 45x^4 + x^5, \\ & (-11 + x) (3067 - 1950x + 404x^2 - 34x^3 + x^4), (-11 + x) \\ & (3083 - 1950x + 404x^2 - 34x^3 + x^4), (-11 + x) (3099 - 1950x + 404x^2 - 34x^3 + x^4), \\ & (-9 + x)^2 (-401 + 211x - 27x^2 + x^3), (-9 + x) (3625 - 2300x + 454x^2 - 36x^3 + x^4), \\ & -32801 + 24341x - 6386x^2 + 778x^3 - 45x^4 + x^5, (-11 + x) (-9 + x) \\ & (-331 + 179x - 25x^2 + x^3), (-11 + x) (2995 - 1942x + 404x^2 - 34x^3 + x^4), \end{aligned}$$

```

(-11 + x) (3011 - 1942 x + 404 x^2 - 34 x^3 + x^4), (-9 + x)^2 (-393 + 211 x - 27 x^2 + x^3),
-32 009 + 24 181 x - 6378 x^2 + 778 x^3 - 45 x^4 + x^5,
(-11 + x) (-9 + x) (-323 + 179 x - 25 x^2 + x^3), (-11 + x)
(2923 - 1934 x + 404 x^2 - 34 x^3 + x^4), (-11 + x) (2939 - 1934 x + 404 x^2 - 34 x^3 + x^4),
(-9 + x) (3449 - 2284 x + 454 x^2 - 36 x^3 + x^4), (-11 + x) (-9 + x)^2 (35 - 16 x + x^2),
(-11 + x) (2851 - 1926 x + 404 x^2 - 34 x^3 + x^4),
(-9 + x) (3361 - 2276 x + 454 x^2 - 36 x^3 + x^4),
(-11 + x) (-9 + x) (-307 + 179 x - 25 x^2 + x^3),
(-11 + x) (2779 - 1918 x + 404 x^2 - 34 x^3 + x^4), (-13 + x) (-11 + x)
(-9 + x) (23 - 12 x + x^2), (-11 + x) (-9 + x) (-291 + 179 x - 25 x^2 + x^3)};

```

```
Length[list7]
```

```
74
```

```
A7 = CoefficientList[list7, x];
```

```
A7 // MatrixForm
```

```

( -38 049 25 349 -6434 778 -45 1 )
( -36 729 25 141 -6426 778 -45 1 )
( -36 969 25 157 -6426 778 -45 1 )
( -36 937 25 157 -6426 778 -45 1 )
( -36 905 25 157 -6426 778 -45 1 )
( -37 113 25 173 -6426 778 -45 1 )
( -37 081 25 173 -6426 778 -45 1 )
( -37 289 25 189 -6426 778 -45 1 )
( -37 257 25 189 -6426 778 -45 1 )
( -37 433 25 205 -6426 778 -45 1 )
( -35 825 24 965 -6418 778 -45 1 )
( -35 793 24 965 -6418 778 -45 1 )
( -36 001 24 981 -6418 778 -45 1 )
( -35 969 24 981 -6418 778 -45 1 )
( -35 937 24 981 -6418 778 -45 1 )
( -36 145 24 997 -6418 778 -45 1 )
( -36 113 24 997 -6418 778 -45 1 )
( -36 321 25 013 -6418 778 -45 1 )
( -36 289 25 013 -6418 778 -45 1 )
( -36 465 25 029 -6418 778 -45 1 )
( -36 641 25 045 -6418 778 -45 1 )
( -36 817 25 061 -6418 778 -45 1 )
( -34 713 24 773 -6410 778 -45 1 )
( -34 857 24 789 -6410 778 -45 1 )
( -35 033 24 805 -6410 778 -45 1 )
( -35 001 24 805 -6410 778 -45 1 )
( -35 209 24 821 -6410 778 -45 1 )
( -35 177 24 821 -6410 778 -45 1 )
( -35 145 24 821 -6410 778 -45 1 )
( -35 353 24 837 -6410 778 -45 1 )
( -35 321 24 837 -6410 778 -45 1 )
( -35 529 24 853 -6410 778 -45 1 )
( -35 497 24 853 -6410 778 -45 1 )
( -35 673 24 869 -6410 778 -45 1 )
( -35 849 24 885 -6410 778 -45 1 )
( -35 821 24 885 -6410 778 -45 1 )

```

```

-33921 24613 -6402 778 -45 1
-34065 24629 -6402 778 -45 1
-34241 24645 -6402 778 -45 1
-34209 24645 -6402 778 -45 1
-34385 24661 -6402 778 -45 1
-34353 24661 -6402 778 -45 1
-34561 24677 -6402 778 -45 1
-34529 24677 -6402 778 -45 1
-34705 24693 -6402 778 -45 1
-34881 24709 -6402 778 -45 1
-35057 24725 -6402 778 -45 1
-33273 24469 -6394 778 -45 1
-33449 24485 -6394 778 -45 1
-33417 24485 -6394 778 -45 1
-33593 24501 -6394 778 -45 1
-33561 24501 -6394 778 -45 1
-33769 24517 -6394 778 -45 1
-33737 24517 -6394 778 -45 1
-33913 24533 -6394 778 -45 1
-34089 24549 -6394 778 -45 1
-32481 24309 -6386 778 -45 1
-32625 24325 -6386 778 -45 1
-32801 24341 -6386 778 -45 1
-32769 24341 -6386 778 -45 1
-32945 24357 -6386 778 -45 1
-33121 24373 -6386 778 -45 1
-31833 24165 -6378 778 -45 1
-32009 24181 -6378 778 -45 1
-31977 24181 -6378 778 -45 1
-32153 24197 -6378 778 -45 1
-32329 24213 -6378 778 -45 1
-31041 24005 -6370 778 -45 1
-31185 24021 -6370 778 -45 1
-31361 24037 -6370 778 -45 1
-30249 23845 -6362 778 -45 1
-30393 23861 -6362 778 -45 1
-30569 23877 -6362 778 -45 1
-29601 23701 -6354 778 -45 1
-28809 23541 -6346 778 -45 1

```

Dimensions[A7]

{74, 6}

gpart[chi7]

{-1814649, 1231237, -314698, 38122, -2205, 49}


```

FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 &&
  n[20] ≥ 0 && n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 &&
  n[26] ≥ 0 && n[27] ≥ 0 && n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 &&
  n[32] ≥ 0 && n[33] ≥ 0 && n[34] ≥ 0 && n[35] == 0 && n[36] ≥ 0 && n[37] ≥ 0 &&
  n[38] ≥ 0 && n[39] ≥ 0 && n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 &&
  n[44] ≥ 0 && n[45] ≥ 0 && n[46] ≥ 0 && n[47] ≥ 0 && n[48] ≥ 0 && n[49] ≥ 0 &&
  n[50] ≥ 0 && n[51] ≥ 0 && n[52] ≥ 0 && n[53] ≥ 0 && n[54] ≥ 0 && n[55] ≥ 0 &&
  n[56] ≥ 0 && n[57] ≥ 0 && n[58] ≥ 0 && n[59] ≥ 0 && n[60] ≥ 0 && n[61] ≥ 0 &&
  n[62] ≥ 0 && n[63] ≥ 0 && n[64] ≥ 0 && n[65] ≥ 0 && n[66] ≥ 0 && n[67] ≥ 0 &&
  n[68] ≥ 0 && n[69] ≥ 0 && n[70] ≥ 0 && n[71] ≥ 0 && n[72] ≥ 0 && n[73] ≥ 0 &&
  n[74] ≥ 0 && Array[n, 74].A7 == gpart[chi7], Array[n, 74], Integers]
{{n[1] → 0, n[2] → 0, n[3] → 5, n[4] → 0, n[5] → 0, n[6] → 0, n[7] → 0,
  n[8] → 22, n[9] → 0, n[10] → 0, n[11] → 0, n[12] → 0, n[13] → 0, n[14] → 0,
  n[15] → 0, n[16] → 0, n[17] → 0, n[18] → 0, n[19] → 0, n[20] → 0,
  n[21] → 3, n[22] → 19, n[23] → 0, n[24] → 0, n[25] → 0, n[26] → 0,
  n[27] → 0, n[28] → 0, n[29] → 0, n[30] → 0, n[31] → 0, n[32] → 0, n[33] → 0,
  n[34] → 0, n[35] → 0, n[36] → 0, n[37] → 0, n[38] → 0, n[39] → 0, n[40] → 0,
  n[41] → 0, n[42] → 0, n[43] → 0, n[44] → 0, n[45] → 0, n[46] → 0, n[47] → 0,
  n[48] → 0, n[49] → 0, n[50] → 0, n[51] → 0, n[52] → 0, n[53] → 0, n[54] → 0,
  n[55] → 0, n[56] → 0, n[57] → 0, n[58] → 0, n[59] → 0, n[60] → 0, n[61] → 0,
  n[62] → 0, n[63] → 0, n[64] → 0, n[65] → 0, n[66] → 0, n[67] → 0, n[68] → 0,
  n[69] → 0, n[70] → 0, n[71] → 0, n[72] → 0, n[73] → 0, n[74] → 0}}

```

```
FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 &&
  n[20] ≥ 0 && n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 &&
  n[26] ≥ 0 && n[27] ≥ 0 && n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 &&
  n[32] ≥ 0 && n[33] ≥ 0 && n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 &&
  n[38] ≥ 0 && n[39] ≥ 0 && n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 &&
  n[44] ≥ 0 && n[45] ≥ 0 && n[46] == 0 && n[47] ≥ 0 && n[48] ≥ 0 && n[49] ≥ 0 &&
  n[50] ≥ 0 && n[51] ≥ 0 && n[52] ≥ 0 && n[53] ≥ 0 && n[54] ≥ 0 && n[55] ≥ 0 &&
  n[56] ≥ 0 && n[57] ≥ 0 && n[58] ≥ 0 && n[59] ≥ 0 && n[60] ≥ 0 && n[61] ≥ 0 &&
  n[62] ≥ 0 && n[63] ≥ 0 && n[64] ≥ 0 && n[65] ≥ 0 && n[66] ≥ 0 && n[67] ≥ 0 &&
  n[68] ≥ 0 && n[69] ≥ 0 && n[70] ≥ 0 && n[71] ≥ 0 && n[72] ≥ 0 && n[73] ≥ 0 &&
  n[74] ≥ 0 && Array[n, 74].A7 == gpart[chi7], Array[n, 74], Integers]
```

```
{ {n[1] → 1, n[2] → 0, n[3] → 6, n[4] → 0, n[5] → 0, n[6] → 0, n[7] → 0,
  n[8] → 20, n[9] → 0, n[10] → 0, n[11] → 0, n[12] → 0, n[13] → 0, n[14] → 0,
  n[15] → 0, n[16] → 0, n[17] → 0, n[18] → 0, n[19] → 0, n[20] → 0,
  n[21] → 0, n[22] → 21, n[23] → 0, n[24] → 0, n[25] → 0, n[26] → 0,
  n[27] → 0, n[28] → 0, n[29] → 0, n[30] → 0, n[31] → 0, n[32] → 0, n[33] → 0,
  n[34] → 0, n[35] → 1, n[36] → 0, n[37] → 0, n[38] → 0, n[39] → 0, n[40] → 0,
  n[41] → 0, n[42] → 0, n[43] → 0, n[44] → 0, n[45] → 0, n[46] → 0, n[47] → 0,
  n[48] → 0, n[49] → 0, n[50] → 0, n[51] → 0, n[52] → 0, n[53] → 0, n[54] → 0,
  n[55] → 0, n[56] → 0, n[57] → 0, n[58] → 0, n[59] → 0, n[60] → 0, n[61] → 0,
  n[62] → 0, n[63] → 0, n[64] → 0, n[65] → 0, n[66] → 0, n[67] → 0, n[68] → 0,
  n[69] → 0, n[70] → 0, n[71] → 0, n[72] → 0, n[73] → 0, n[74] → 0 } }
```

```
list7[{8, 22}] * mu[chi7] // Factor
```

```
{ (-11 + x) (-9 + x)11 (5 + x)31 (-37289 + 25189 x - 6426 x2 + 778 x3 - 45 x4 + x5),
  (-11 + x)2 (-9 + x)11 (5 + x)31 (3347 - 1974 x + 404 x2 - 34 x3 + x4) }
```

```
Array[m, 6].Transpose[A7]
```

```
{ -38049 m[1] + 25349 m[2] - 6434 m[3] + 778 m[4] - 45 m[5] + m[6],
  -36729 m[1] + 25141 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6],
  -36969 m[1] + 25157 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6],
  -36937 m[1] + 25157 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6],
  -36905 m[1] + 25157 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6],
  -37113 m[1] + 25173 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6],
  -37081 m[1] + 25173 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6],
  -37289 m[1] + 25189 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6],
  -37257 m[1] + 25189 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6],
  -37433 m[1] + 25205 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6],
  -35825 m[1] + 24965 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6],
  -35793 m[1] + 24965 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6],
  -36001 m[1] + 24981 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6],
  -35969 m[1] + 24981 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6],
  -35937 m[1] + 24981 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6],
  -36145 m[1] + 24997 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6],
  -36113 m[1] + 24997 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6],
```

$-36\,321\,m[1] + 25\,013\,m[2] - 6418\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-36\,289\,m[1] + 25\,013\,m[2] - 6418\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-36\,465\,m[1] + 25\,029\,m[2] - 6418\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-36\,641\,m[1] + 25\,045\,m[2] - 6418\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-36\,817\,m[1] + 25\,061\,m[2] - 6418\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-34\,713\,m[1] + 24\,773\,m[2] - 6410\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-34\,857\,m[1] + 24\,789\,m[2] - 6410\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-35\,033\,m[1] + 24\,805\,m[2] - 6410\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-35\,001\,m[1] + 24\,805\,m[2] - 6410\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-35\,209\,m[1] + 24\,821\,m[2] - 6410\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-35\,177\,m[1] + 24\,821\,m[2] - 6410\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-35\,145\,m[1] + 24\,821\,m[2] - 6410\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-35\,353\,m[1] + 24\,837\,m[2] - 6410\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-35\,321\,m[1] + 24\,837\,m[2] - 6410\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-35\,529\,m[1] + 24\,853\,m[2] - 6410\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-35\,497\,m[1] + 24\,853\,m[2] - 6410\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-35\,673\,m[1] + 24\,869\,m[2] - 6410\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-35\,849\,m[1] + 24\,885\,m[2] - 6410\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-33\,921\,m[1] + 24\,613\,m[2] - 6402\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-34\,065\,m[1] + 24\,629\,m[2] - 6402\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-34\,241\,m[1] + 24\,645\,m[2] - 6402\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-34\,209\,m[1] + 24\,645\,m[2] - 6402\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-34\,385\,m[1] + 24\,661\,m[2] - 6402\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-34\,353\,m[1] + 24\,661\,m[2] - 6402\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-34\,561\,m[1] + 24\,677\,m[2] - 6402\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-34\,529\,m[1] + 24\,677\,m[2] - 6402\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-34\,705\,m[1] + 24\,693\,m[2] - 6402\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-34\,881\,m[1] + 24\,709\,m[2] - 6402\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-35\,057\,m[1] + 24\,725\,m[2] - 6402\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-33\,273\,m[1] + 24\,469\,m[2] - 6394\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-33\,449\,m[1] + 24\,485\,m[2] - 6394\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-33\,417\,m[1] + 24\,485\,m[2] - 6394\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-33\,593\,m[1] + 24\,501\,m[2] - 6394\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-33\,561\,m[1] + 24\,501\,m[2] - 6394\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-33\,769\,m[1] + 24\,517\,m[2] - 6394\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-33\,737\,m[1] + 24\,517\,m[2] - 6394\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-33\,913\,m[1] + 24\,533\,m[2] - 6394\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-34\,089\,m[1] + 24\,549\,m[2] - 6394\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-32\,481\,m[1] + 24\,309\,m[2] - 6386\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-32\,625\,m[1] + 24\,325\,m[2] - 6386\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-32\,801\,m[1] + 24\,341\,m[2] - 6386\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-32\,769\,m[1] + 24\,341\,m[2] - 6386\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-32\,945\,m[1] + 24\,357\,m[2] - 6386\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-33\,121\,m[1] + 24\,373\,m[2] - 6386\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-31\,833\,m[1] + 24\,165\,m[2] - 6378\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-32\,009\,m[1] + 24\,181\,m[2] - 6378\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$
 $-31\,977\,m[1] + 24\,181\,m[2] - 6378\,m[3] + 778\,m[4] - 45\,m[5] + m[6],$

```

-32 153 m[1] + 24 197 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ,
-32 329 m[1] + 24 213 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ,
-31 041 m[1] + 24 005 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ,
-31 185 m[1] + 24 021 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ,
-31 361 m[1] + 24 037 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ,
-30 249 m[1] + 23 845 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ,
-30 393 m[1] + 23 861 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ,
-30 569 m[1] + 23 877 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ,
-29 601 m[1] + 23 701 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ,
-28 809 m[1] + 23 541 m[2] - 6346 m[3] + 778 m[4] - 45 m[5] + m[6] }

```

Array[m, 6].gpart[chi7]

```
-1 814 649 m[1] + 1 231 237 m[2] - 314 698 m[3] + 38 122 m[4] - 2205 m[5] + 49 m[6]
```

FindInstance[

```

-1 814 649 m[1] + 1 231 237 m[2] - 314 698 m[3] + 38 122 m[4] - 2205 m[5] + 49 m[6] < 0 &&
-38 049 m[1] + 25 349 m[2] - 6434 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36 729 m[1] + 25 141 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36 969 m[1] + 25 157 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36 937 m[1] + 25 157 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36 905 m[1] + 25 157 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-37 113 m[1] + 25 173 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-37 081 m[1] + 25 173 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-37 289 m[1] + 25 189 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-37 257 m[1] + 25 189 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-37 433 m[1] + 25 205 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35 825 m[1] + 24 965 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35 793 m[1] + 24 965 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36 001 m[1] + 24 981 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35 969 m[1] + 24 981 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35 937 m[1] + 24 981 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36 145 m[1] + 24 997 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36 113 m[1] + 24 997 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36 321 m[1] + 25 013 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36 289 m[1] + 25 013 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36 465 m[1] + 25 029 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36 641 m[1] + 25 045 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36 817 m[1] + 25 061 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34 713 m[1] + 24 773 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34 857 m[1] + 24 789 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35 033 m[1] + 24 805 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35 001 m[1] + 24 805 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35 209 m[1] + 24 821 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35 177 m[1] + 24 821 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35 145 m[1] + 24 821 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35 353 m[1] + 24 837 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35 321 m[1] + 24 837 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&

```

```

- 35 529 m[1] + 24 853 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 35 497 m[1] + 24 853 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 35 673 m[1] + 24 869 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 35 849 m[1] + 24 885 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 921 m[1] + 24 613 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 065 m[1] + 24 629 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 241 m[1] + 24 645 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 209 m[1] + 24 645 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 385 m[1] + 24 661 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 353 m[1] + 24 661 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 561 m[1] + 24 677 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 529 m[1] + 24 677 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 705 m[1] + 24 693 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 881 m[1] + 24 709 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 35 057 m[1] + 24 725 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 273 m[1] + 24 469 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 449 m[1] + 24 485 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 417 m[1] + 24 485 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 593 m[1] + 24 501 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 561 m[1] + 24 501 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 769 m[1] + 24 517 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 737 m[1] + 24 517 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 913 m[1] + 24 533 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 089 m[1] + 24 549 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 481 m[1] + 24 309 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 625 m[1] + 24 325 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 801 m[1] + 24 341 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 769 m[1] + 24 341 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 945 m[1] + 24 357 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 121 m[1] + 24 373 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 833 m[1] + 24 165 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 009 m[1] + 24 181 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 977 m[1] + 24 181 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 153 m[1] + 24 197 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 329 m[1] + 24 213 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 041 m[1] + 24 005 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 185 m[1] + 24 021 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 361 m[1] + 24 037 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 30 249 m[1] + 23 845 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 30 393 m[1] + 23 861 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 30 569 m[1] + 23 877 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 29 601 m[1] + 23 701 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 28 809 m[1] + 23 541 m[2] - 6346 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0,

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Array[m, 6], Integers]

{}

FindInstance[

```

-1814649 m[1] + 1231237 m[2] - 314698 m[3] + 38122 m[4] - 2205 m[5] + 49 m[6] < 0 &&
-38049 m[1] + 25349 m[2] - 6434 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36729 m[1] + 25141 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36969 m[1] + 25157 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36937 m[1] + 25157 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36905 m[1] + 25157 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-37113 m[1] + 25173 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-37081 m[1] + 25173 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-37289 m[1] + 25189 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] < 0 &&
-37257 m[1] + 25189 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-37433 m[1] + 25205 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35825 m[1] + 24965 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35793 m[1] + 24965 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36001 m[1] + 24981 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35969 m[1] + 24981 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35937 m[1] + 24981 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36145 m[1] + 24997 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36113 m[1] + 24997 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36321 m[1] + 25013 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36289 m[1] + 25013 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36465 m[1] + 25029 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36641 m[1] + 25045 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36817 m[1] + 25061 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34713 m[1] + 24773 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34857 m[1] + 24789 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35033 m[1] + 24805 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35001 m[1] + 24805 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35209 m[1] + 24821 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35177 m[1] + 24821 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35145 m[1] + 24821 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35353 m[1] + 24837 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35321 m[1] + 24837 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35529 m[1] + 24853 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35497 m[1] + 24853 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35673 m[1] + 24869 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35849 m[1] + 24885 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-33921 m[1] + 24613 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34065 m[1] + 24629 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34241 m[1] + 24645 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34209 m[1] + 24645 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34385 m[1] + 24661 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34353 m[1] + 24661 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34561 m[1] + 24677 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&

```

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- 34 529 m[1] + 24 677 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 705 m[1] + 24 693 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 881 m[1] + 24 709 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 35 057 m[1] + 24 725 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 273 m[1] + 24 469 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 449 m[1] + 24 485 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 417 m[1] + 24 485 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 593 m[1] + 24 501 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 561 m[1] + 24 501 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 769 m[1] + 24 517 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 737 m[1] + 24 517 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 913 m[1] + 24 533 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 089 m[1] + 24 549 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 481 m[1] + 24 309 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 625 m[1] + 24 325 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 801 m[1] + 24 341 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 769 m[1] + 24 341 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 945 m[1] + 24 357 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 121 m[1] + 24 373 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 833 m[1] + 24 165 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 009 m[1] + 24 181 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 977 m[1] + 24 181 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 153 m[1] + 24 197 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 329 m[1] + 24 213 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 041 m[1] + 24 005 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 185 m[1] + 24 021 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 361 m[1] + 24 037 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 30 249 m[1] + 23 845 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 30 393 m[1] + 23 861 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 30 569 m[1] + 23 877 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 29 601 m[1] + 23 701 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 28 809 m[1] + 23 541 m[2] - 6346 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0,
Array[m, 6], Integers]
{{m[1] → 19 927, m[2] → 192 633,
  m[3] → 1 932 968, m[4] → 0, m[5] → 0, m[6] → 8 311 896 038}}

Array[m, 6] /. {m[1] → 19 927, m[2] → 192 633,
  m[3] → 1 932 968, m[4] → 0, m[5] → 0, m[6] → 8 311 896 038}
{19 927, 192 633, 1 932 968, 0, 0, 8 311 896 038}

GCD[19 927, 192 633, 1 932 968, 0, 0, 8 311 896 038]
1

Reverse[{19 927, 192 633, 1 932 968, 0, 0, 8 311 896 038}]
{8 311 896 038, 0, 0, 1 932 968, 192 633, 19 927}

```

```
{19927, 192633, 1932968, 0, 0, 8311896038}.gpart[chi7]
```

```
-1891404
```

```
{19927, 192633, 1932968, 0, 0, 8311896038}.Transpose[A7]
```

```
{31420, 1731140, 30788, 668452, 1306116, 243428, 881092, -181596, 456068,
31044, 1305484, 1943148, 880460, 1518124, 2155788, 1093100, 1730764,
668076, 1305740, 880716, 455692, 30668, 1942516, 2155156, 1730132, 2367796,
1305108, 1942772, 2580436, 1517748, 2155412, 1092724, 1730388, 1305364,
880340, 2367164, 2579804, 2154780, 2792444, 2367420, 3005084, 1942396,
2580060, 2155036, 1730012, 1304988, 3004452, 2579428, 3217092, 2792068,
3429732, 2367044, 3004708, 2579684, 2154660, 3429100, 3641740, 3216716,
3854380, 3429356, 3004332, 4066388, 3641364, 4279028, 3854004, 3428980,
4491036, 4703676, 4278652, 4915684, 5128324, 4703300, 5552972, 5977620}
```

```
FindInstance[
```

```
-1814649 m[1] + 1231237 m[2] - 314698 m[3] + 38122 m[4] - 2205 m[5] + 49 m[6] < 0 &&
-38049 m[1] + 25349 m[2] - 6434 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36729 m[1] + 25141 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36969 m[1] + 25157 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36937 m[1] + 25157 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36905 m[1] + 25157 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-37113 m[1] + 25173 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-37081 m[1] + 25173 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-37289 m[1] + 25189 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-37257 m[1] + 25189 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-37433 m[1] + 25205 m[2] - 6426 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35825 m[1] + 24965 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35793 m[1] + 24965 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36001 m[1] + 24981 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35969 m[1] + 24981 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35937 m[1] + 24981 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36145 m[1] + 24997 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36113 m[1] + 24997 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36321 m[1] + 25013 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36289 m[1] + 25013 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36465 m[1] + 25029 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36641 m[1] + 25045 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36817 m[1] + 25061 m[2] - 6418 m[3] + 778 m[4] - 45 m[5] + m[6] < 0 &&
-34713 m[1] + 24773 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34857 m[1] + 24789 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35033 m[1] + 24805 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35001 m[1] + 24805 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35209 m[1] + 24821 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35177 m[1] + 24821 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35145 m[1] + 24821 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
```

```

- 35 353 m[1] + 24 837 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 35 321 m[1] + 24 837 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 35 529 m[1] + 24 853 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 35 497 m[1] + 24 853 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 35 673 m[1] + 24 869 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 35 849 m[1] + 24 885 m[2] - 6410 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 921 m[1] + 24 613 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 065 m[1] + 24 629 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 241 m[1] + 24 645 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 209 m[1] + 24 645 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 385 m[1] + 24 661 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 353 m[1] + 24 661 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 561 m[1] + 24 677 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 529 m[1] + 24 677 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 705 m[1] + 24 693 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 881 m[1] + 24 709 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 35 057 m[1] + 24 725 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 273 m[1] + 24 469 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 449 m[1] + 24 485 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 417 m[1] + 24 485 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 593 m[1] + 24 501 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 561 m[1] + 24 501 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 769 m[1] + 24 517 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 737 m[1] + 24 517 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 913 m[1] + 24 533 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 34 089 m[1] + 24 549 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 481 m[1] + 24 309 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 625 m[1] + 24 325 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 801 m[1] + 24 341 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 769 m[1] + 24 341 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 945 m[1] + 24 357 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 121 m[1] + 24 373 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 833 m[1] + 24 165 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 009 m[1] + 24 181 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 977 m[1] + 24 181 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 153 m[1] + 24 197 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 329 m[1] + 24 213 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 041 m[1] + 24 005 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 185 m[1] + 24 021 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 361 m[1] + 24 037 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 30 249 m[1] + 23 845 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 30 393 m[1] + 23 861 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 30 569 m[1] + 23 877 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 29 601 m[1] + 23 701 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 28 809 m[1] + 23 541 m[2] - 6346 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0,
Array[m, 6], Integers]

```

```
{m[1] → 7591, m[2] → 68 323, m[3] → 614 905, m[4] → 0, m[5] → 0, m[6] → 2 513 477 598}}
```

```
Array[m, 6] /.
```

```
{m[1] → 7591, m[2] → 68 323, m[3] → 614 905, m[4] → 0, m[5] → 0, m[6] → 2 513 477 598}
```

```
{7591, 68 323, 614 905, 0, 0, 2 513 477 598}
```

```
GCD[7591, 68 323, 614 905, 0, 0, 2 513 477 598]
```

```
1
```

```
Reverse[{7591, 68 323, 614 905, 0, 0, 2 513 477 598}]
```

```
{2 513 477 598, 0, 0, 614 905, 68 323, 7591}
```

```
{7591, 68 323, 614 905, 0, 0, 2 513 477 598}.gpart[chi7]
```

```
-2 166 396
```

```
{7591, 68 323, 614 905, 0, 0, 2 513 477 598}.Transpose[A7]
```

```
{268 596, 996 772, 268 100, 511 012, 753 924, 268 164, 511 076, 25 316, 268 228, 25 380,
753 428, 996 340, 510 580, 753 492, 996 404, 510 644, 753 556, 267 796, 510 708,
267 860, 25 012, -217 836, 995 844, 995 908, 753 060, 995 972, 510 212, 753 124,
996 036, 510 276, 753 188, 267 428, 510 340, 267 492, 24 644, 995 476, 995 540, 752 692,
995 604, 752 756, 995 668, 509 908, 752 820, 509 972, 267 124, 24 276, 995 172,
752 324, 995 236, 752 388, 995 300, 509 540, 752 452, 509 604, 266 756, 994 804,
994 868, 752 020, 994 932, 752 084, 509 236, 994 500, 751 652, 994 564, 751 716,
508 868, 994 132, 994 196, 751 348, 993 764, 993 828, 750 980, 993 460, 993 092}
```

```
anglesq7 = anglesquaredmat[chi7, list7] // FullSimplify;
```

```
Dimensions[anglesq7]
```

```
{74, 6}
```

```
angle7 = Sqrt[anglesq7] // FullSimplify;
```

```
angle7 // MatrixForm
```

$\sqrt{\frac{887}{1351}}$	$\text{Root}[-1 + 751 \#1^2 - 141 764 \#1^4 + 824 110 \#1^6 \&, 4]$	$\sqrt{\frac{6}{35}}$	$\text{Root}[-$
$3 \sqrt{\frac{14}{193}}$	$\text{Root}[-2 + 1368 \#1^2 - 28 609 \#1^4 + 82 411 \#1^6 \&, 5]$	0	$\text{Root}[-$
$\frac{\sqrt{\frac{7051}{2702}}}{2}$	$\text{Root}[-1 + 1733 \#1^2 - 165 676 \#1^4 + 3 296 440 \#1^6 \&, 6]$	$\sqrt{\frac{6}{35}}$	$\text{Root}[-$
$\frac{3 \sqrt{\frac{1569}{1351}}}{4}$	$\text{Root}[-61 + 21 101 \#1^2 - 640 256 \#1^4 + 3 767 360 \#1^6 \&, 5]$	$\frac{2}{\sqrt{35}}$	$\text{Root}[-6.$
$\sqrt{\frac{1765}{2702}}$	$\text{Root}[-403 + 80 571 \#1^2 - 1 909 544 \#1^4 + 6 592 880 \#1^6 \&, 5]$	$\sqrt{\frac{2}{35}}$	$\text{Root}[-40:$
$\frac{\sqrt{\frac{14 129}{1351}}}{4}$	$\text{Root}[-431 + 78 415 \#1^2 - 2 965 088 \#1^4 + 26 371 520 \#1^6 \&, 5]$	$\sqrt{\frac{6}{35}}$	$\text{Root}[-431$
$\sqrt{\frac{883}{1351}}$	$\text{Root}[-103 + 13 931 \#1^2 - 382 592 \#1^4 + 1 648 220 \#1^6 \&, 5]$	$\frac{2}{\sqrt{35}}$	$\text{Root}[-16$
$\frac{\sqrt{\frac{14 137}{1351}}}{4}$	$\text{Root}[-139 + 25 211 \#1^2 - 1 448 384 \#1^4 + 26 371 520 \#1^6 \&, 5]$	$2 \sqrt{\frac{2}{35}}$	$\text{Root}[-139$

$\sqrt{\frac{1761}{2702}}$	Root [- 283 + 34 899 #1 ² - 1 151 192 #1 ⁴ + 6 592 880 #1 ⁶ &, 5]	$\sqrt{\frac{9}{35}}$	Root [- 283
$2 \sqrt{\frac{221}{1351}}$	Root [- 7 + 1131 #1 ² - 48 251 #1 ⁴ + 412 055 #1 ⁶ &, 4]	$2 \sqrt{\frac{2}{35}}$	Root [
$\frac{5 \sqrt{\frac{281}{2702}}}{2}$	Root [- 151 + 48 127 #1 ² - 1 106 784 #1 ⁴ + 6 592 880 #1 ⁶ &, 5]	$\sqrt{\frac{2}{35}}$	Root [- 151
$\frac{3 \sqrt{\frac{223}{193}}}{4}$	Root [- 515 + 95 003 #1 ² - 1 516 704 #1 ⁴ + 5 274 304 #1 ⁶ &, 5]	0	Root [- 515
$\frac{3 \sqrt{\frac{781}{2702}}}{2}$	Root [- 1 + 173 #1 ² - 5964 #1 ⁴ + 54 040 #1 ⁶ &, 6]	$\frac{2}{\sqrt{35}}$	Root [
$\frac{\sqrt{\frac{14057}{1351}}}{4}$	Root [- 2843 + 336 835 #1 ² - 6 066 816 #1 ⁴ + 26 371 520 #1 ⁶ &, 5]	$\sqrt{\frac{2}{35}}$	Root [- 2843
$\sqrt{\frac{251}{386}}$	Root [- 331 + 31 499 #1 ² - 461 160 #1 ⁴ + 1 318 576 #1 ⁶ &, 5]	0	Root [- 331
$\frac{\sqrt{\frac{14065}{1351}}}{4}$	Root [- 2239 + 214 743 #1 ² - 4 550 112 #1 ⁴ + 26 371 520 #1 ⁶ &, 5]	$\frac{2}{\sqrt{35}}$	Root [- 2239
$\sqrt{\frac{879}{1351}}$	Root [- 27 + 2133 #1 ² - 34 404 #1 ⁴ + 117 730 #1 ⁶ &, 5]	$\sqrt{\frac{2}{35}}$	Root [-
$\frac{\sqrt{\frac{14073}{1351}}}{4}$	Root [- 1147 + 108 739 #1 ² - 3 033 408 #1 ⁴ + 26 371 520 #1 ⁶ &, 5]	$\sqrt{\frac{6}{35}}$	Root [- 1147
$\sqrt{\frac{1759}{2702}}$	Root [- 1183 + 85 423 #1 ² - 1 547 448 #1 ⁴ + 6 592 880 #1 ⁶ &, 5]	$\frac{2}{\sqrt{35}}$	Root [- 1183
$4 \sqrt{\frac{55}{1351}}$	Root [- 191 + 13 855 #1 ² - 292 068 #1 ⁴ + 1 648 220 #1 ⁶ &, 5]	$\sqrt{\frac{6}{35}}$	Root [- 191
$\sqrt{\frac{1761}{2702}}$	Root [- 351 + 29 439 #1 ² - 789 096 #1 ⁴ + 6 592 880 #1 ⁶ &, 4]	$2 \sqrt{\frac{2}{35}}$	Root [- 351
$\sqrt{\frac{881}{1351}}$	Root [- 1 + 187 #1 ² - 10 248 #1 ⁴ + 164 822 #1 ⁶ &, 5]	$\sqrt{\frac{2}{7}}$	Root [
$\frac{\sqrt{\frac{1997}{193}}}{4}$	Root [- 103 + 31 687 #1 ² - 874 496 #1 ⁴ + 5 274 304 #1 ⁶ &, 6]	0	Root [- 103
$\frac{3 \sqrt{\frac{111}{386}}}{2}$	Root [- 163 + 18 595 #1 ² - 300 608 #1 ⁴ + 1 318 576 #1 ⁶ &, 5]	0	Root [- 163
$\frac{\sqrt{\frac{6997}{2702}}}{2}$	Root [- 277 + 26 377 #1 ² - 561 932 #1 ⁴ + 3 296 440 #1 ⁶ &, 6]	$\sqrt{\frac{2}{35}}$	Root [- 277
$\frac{\sqrt{\frac{1999}{193}}}{4}$	Root [- 1583 + 116 399 #1 ² - 1 530 368 #1 ⁴ + 5 274 304 #1 ⁶ &, 5]	0	Root [- 1583
$\frac{\sqrt{\frac{7001}{2702}}}{2}$	Root [- 13 + 2365 #1 ² - 106 384 #1 ⁴ + 941 840 #1 ⁶ &, 6]	$\frac{2}{\sqrt{35}}$	Root [-
$\frac{\sqrt{\frac{14001}{1351}}}{4}$	Root [- 6191 + 407 103 #1 ² - 6 135 136 #1 ⁴ + 26 371 520 #1 ⁶ &, 5]	$\sqrt{\frac{2}{35}}$	Root [- 6191
$5 \sqrt{\frac{5}{193}}$	Root [- 175 + 9859 #1 ² - 116 144 #1 ⁴ + 329 644 #1 ⁶ &, 5]	0	Root [- 175
$\frac{\sqrt{\frac{14009}{1351}}}{4}$	Root [- 3787 + 248 299 #1 ² - 4 618 432 #1 ⁴ + 26 371 520 #1 ⁶ &, 6]	$\frac{2}{\sqrt{35}}$	Root [- 3787
$\sqrt{\frac{1751}{2702}}$	Root [- 2843 + 149 955 #1 ² - 1 943 704 #1 ⁴ + 6 592 880 #1 ⁶ &, 5]	$\sqrt{\frac{2}{35}}$	Root [- 2843
$\frac{\sqrt{\frac{14017}{1351}}}{4}$	Root [- 1087 + 105 583 #1 ² - 3 101 728 #1 ⁴ + 26 371 520 #1 ⁶ &, 6]	$\sqrt{\frac{6}{35}}$	Root [- 1087
$2 \sqrt{\frac{219}{1351}}$	Root [- 128 + 6672 #1 ² - 97 783 #1 ⁴ + 412 055 #1 ⁶ &, 5]	$\frac{2}{\sqrt{35}}$	Root [-
$\sqrt{\frac{1753}{2702}}$	Root [- 173 + 9653 #1 ² - 169 336 #1 ⁴ + 941 840 #1 ⁶ &, 5]	$\sqrt{\frac{6}{35}}$	Root [-
$\sqrt{\frac{877}{1351}}$	Root [- 107 + 8103 #1 ² - 201 544 #1 ⁴ + 1 648 220 #1 ⁶ &, 6]	$2 \sqrt{\frac{2}{35}}$	Root [- 107
$\frac{3 \sqrt{\frac{221}{193}}}{4}$	Root [- 29 + 3669 #1 ² - 126 880 #1 ⁴ + 753 472 #1 ⁶ &, 6]	0	Root [-

$\frac{\sqrt{\frac{995}{386}}}{2}$	Root $[-149 + 9841 \#1^2 - 152\,012 \#1^4 + 659\,288 \#1^6 \&, 6]$	0	Root $[-149 + 9841 \#1^2 - 152\,012 \#1^4 + 659\,288 \#1^6 \&, 6]$
$\frac{\sqrt{\frac{6969}{2702}}}{2}$	Root $[-619 + 49\,011 \#1^2 - 1\,140\,944 \#1^4 + 6\,592\,880 \#1^6 \&, 6]$	$\sqrt{\frac{2}{35}}$	Root $[-619 + 49\,011 \#1^2 - 1\,140\,944 \#1^4 + 6\,592\,880 \#1^6 \&, 6]$
$\frac{\sqrt{\frac{1991}{193}}}{4}$	Root $[-2611 + 131\,099 \#1^2 - 1\,544\,032 \#1^4 + 5\,274\,304 \#1^6 \&, 5]$	0	Root $[-2611 + 131\,099 \#1^2 - 1\,544\,032 \#1^4 + 5\,274\,304 \#1^6 \&, 5]$
$\frac{\sqrt{\frac{13\,945}{1351}}}{4}$	Root $[-1261 + 63\,413 \#1^2 - 886\,208 \#1^4 + 3\,767\,360 \#1^6 \&, 6]$	$\sqrt{\frac{2}{35}}$	Root $[-1261 + 63\,413 \#1^2 - 886\,208 \#1^4 + 3\,767\,360 \#1^6 \&, 6]$
$\sqrt{\frac{249}{386}}$	Root $[-1091 + 45\,699 \#1^2 - 467\,992 \#1^4 + 1\,318\,576 \#1^6 \&, 5]$	0	Root $[-1091 + 45\,699 \#1^2 - 467\,992 \#1^4 + 1\,318\,576 \#1^6 \&, 5]$
$\frac{\sqrt{\frac{13\,953}{1351}}}{4}$	Root $[-4111 + 248\,375 \#1^2 - 4\,686\,752 \#1^4 + 26\,371\,520 \#1^6 \&, 6]$	$\frac{2}{\sqrt{35}}$	Root $[-4111 + 248\,375 \#1^2 - 4\,686\,752 \#1^4 + 26\,371\,520 \#1^6 \&, 6]$
$2 \sqrt{\frac{218}{1351}}$	Root $[-1039 + 43\,023 \#1^2 - 490\,196 \#1^4 + 1\,648\,220 \#1^6 \&, 5]$	$\sqrt{\frac{2}{35}}$	Root $[-1039 + 43\,023 \#1^2 - 490\,196 \#1^4 + 1\,648\,220 \#1^6 \&, 5]$
$\sqrt{\frac{1745}{2702}}$	Root $[-2767 + 119\,711 \#1^2 - 1\,581\,608 \#1^4 + 6\,592\,880 \#1^6 \&, 5]$	$\frac{2}{\sqrt{35}}$	Root $[-2767 + 119\,711 \#1^2 - 1\,581\,608 \#1^4 + 6\,592\,880 \#1^6 \&, 5]$
$3 \sqrt{\frac{97}{1351}}$	Root $[-173 + 8919 \#1^2 - 150\,304 \#1^4 + 824\,110 \#1^6 \&, 6]$	$\sqrt{\frac{6}{35}}$	Root $[-173 + 8919 \#1^2 - 150\,304 \#1^4 + 824\,110 \#1^6 \&, 6]$
$\sqrt{\frac{1747}{2702}}$	Root $[-103 + 27\,015 \#1^2 - 823\,256 \#1^4 + 6\,592\,880 \#1^6 \&, 6]$	$2 \sqrt{\frac{2}{35}}$	Root $[-103 + 27\,015 \#1^2 - 823\,256 \#1^4 + 6\,592\,880 \#1^6 \&, 6]$
$\frac{\sqrt{\frac{991}{386}}}{2}$	Root $[-343 + 19\,095 \#1^2 - 307\,440 \#1^4 + 1\,318\,576 \#1^6 \&, 6]$	0	Root $[-343 + 19\,095 \#1^2 - 307\,440 \#1^4 + 1\,318\,576 \#1^6 \&, 6]$
$\frac{\sqrt{\frac{6941}{2702}}}{2}$	Root $[-53 + 18\,449 \#1^2 - 579\,012 \#1^4 + 3\,296\,440 \#1^6 \&, 6]$	$\sqrt{\frac{2}{35}}$	Root $[-53 + 18\,449 \#1^2 - 579\,012 \#1^4 + 3\,296\,440 \#1^6 \&, 6]$
$\frac{\sqrt{\frac{1983}{193}}}{4}$	Root $[-3407 + 139\,103 \#1^2 - 1\,557\,696 \#1^4 + 5\,274\,304 \#1^6 \&, 6]$	0	Root $[-3407 + 139\,103 \#1^2 - 1\,557\,696 \#1^4 + 5\,274\,304 \#1^6 \&, 6]$
$\frac{\sqrt{\frac{13\,889}{1351}}}{4}$	Root $[-9791 + 447\,199 \#1^2 - 6\,271\,776 \#1^4 + 26\,371\,520 \#1^6 \&, 6]$	$\sqrt{\frac{2}{35}}$	Root $[-9791 + 447\,199 \#1^2 - 6\,271\,776 \#1^4 + 26\,371\,520 \#1^6 \&, 6]$
$2 \sqrt{\frac{31}{193}}$	Root $[-13 + 449 \#1^2 - 4209 \#1^4 + 11\,773 \#1^6 \&, 5]$	0	Root $[-13 + 449 \#1^2 - 4209 \#1^4 + 11\,773 \#1^6 \&, 5]$
$\frac{\sqrt{\frac{13\,897}{1351}}}{4}$	Root $[-2251 + 214\,971 \#1^2 - 4\,755\,072 \#1^4 + 26\,371\,520 \#1^6 \&, 6]$	$\frac{2}{\sqrt{35}}$	Root $[-2251 + 214\,971 \#1^2 - 4\,755\,072 \#1^4 + 26\,371\,520 \#1^6 \&, 6]$
$\frac{3}{\sqrt{14}}$	Root $[-27 + 963 \#1^2 - 10\,248 \#1^4 + 34\,160 \#1^6 \&, 5]$	$\sqrt{\frac{2}{35}}$	Root $[-27 + 963 \#1^2 - 10\,248 \#1^4 + 34\,160 \#1^6 \&, 5]$
$\sqrt{\frac{869}{1351}}$	Root $[-775 + 31\,075 \#1^2 - 399\,672 \#1^4 + 1\,648\,220 \#1^6 \&, 6]$	$\frac{2}{\sqrt{35}}$	Root $[-775 + 31\,075 \#1^2 - 399\,672 \#1^4 + 1\,648\,220 \#1^6 \&, 6]$
$\sqrt{\frac{1739}{2702}}$	Root $[-1043 + 66\,763 \#1^2 - 1\,219\,512 \#1^4 + 6\,592\,880 \#1^6 \&, 6]$	$\sqrt{\frac{6}{35}}$	Root $[-1043 + 66\,763 \#1^2 - 1\,219\,512 \#1^4 + 6\,592\,880 \#1^6 \&, 6]$
$\frac{\sqrt{\frac{987}{386}}}{2}$	Root $[-125 + 8417 \#1^2 - 155\,428 \#1^4 + 659\,288 \#1^6 \&, 6]$	0	Root $[-125 + 8417 \#1^2 - 155\,428 \#1^4 + 659\,288 \#1^6 \&, 6]$
$\frac{5 \sqrt{\frac{79}{193}}}{4}$	Root $[-3779 + 140\,411 \#1^2 - 1\,571\,360 \#1^4 + 5\,274\,304 \#1^6 \&, 6]$	0	Root $[-3779 + 140\,411 \#1^2 - 1\,571\,360 \#1^4 + 5\,274\,304 \#1^6 \&, 6]$
$\frac{3 \sqrt{\frac{1537}{1351}}}{4}$	Root $[-8123 + 417\,027 \#1^2 - 6\,340\,096 \#1^4 + 26\,371\,520 \#1^6 \&, 6]$	$\sqrt{\frac{2}{35}}$	Root $[-8123 + 417\,027 \#1^2 - 6\,340\,096 \#1^4 + 26\,371\,520 \#1^6 \&, 6]$
$\sqrt{\frac{247}{386}}$	Root $[-1747 + 53\,203 \#1^2 - 474\,824 \#1^4 + 1\,318\,576 \#1^6 \&, 6]$	0	Root $[-1747 + 53\,203 \#1^2 - 474\,824 \#1^4 + 1\,318\,576 \#1^6 \&, 6]$
$\sqrt{\frac{865}{1351}}$	Root $[-721 + 23\,907 \#1^2 - 249\,368 \#1^4 + 824\,110 \#1^6 \&, 6]$	$\sqrt{\frac{2}{35}}$	Root $[-721 + 23\,907 \#1^2 - 249\,368 \#1^4 + 824\,110 \#1^6 \&, 6]$
$\sqrt{\frac{1731}{2702}}$	Root $[-401 + 17\,217 \#1^2 - 230\,824 \#1^4 + 941\,840 \#1^6 \&, 6]$	$\frac{2}{\sqrt{35}}$	Root $[-401 + 17\,217 \#1^2 - 230\,824 \#1^4 + 941\,840 \#1^6 \&, 6]$
$\frac{\sqrt{\frac{1967}{193}}}{4}$	Root $[-505 + 19\,289 \#1^2 - 226\,432 \#1^4 + 753\,472 \#1^6 \&, 6]$	0	Root $[-505 + 19\,289 \#1^2 - 226\,432 \#1^4 + 753\,472 \#1^6 \&, 6]$
$\frac{\sqrt{\frac{13\,777}{1351}}}{4}$	Root $[-2863 + 353\,375 \#1^2 - 6\,408\,416 \#1^4 + 26\,371\,520 \#1^6 \&, 6]$	$\sqrt{\frac{2}{35}}$	Root $[-2863 + 353\,375 \#1^2 - 6\,408\,416 \#1^4 + 26\,371\,520 \#1^6 \&, 6]$
$\sqrt{123}$	Root $[-123 + 123 \#1^2 - 123 \#1^4 + 123 \#1^6 \&, 5]$	0	Root $[-123 + 123 \#1^2 - 123 \#1^4 + 123 \#1^6 \&, 5]$

$\sqrt{\frac{1723}{2702}}$	$\text{Root}[-479 + 13\,611 \#1^4 - 119\,560 \#1^7 + 329\,644 \#1^9 \&, 6]$	0	$\text{Root}[-479 + 13\,611 \#1^4 - 119\,560 \#1^7 + 329\,644 \#1^9 \&, 6]$
$\sqrt{\frac{862}{1351}}$	$\text{Root}[-5587 + 188\,283 \#1^2 - 2\,012\,024 \#1^4 + 6\,592\,880 \#1^6 \&, 6]$	$\sqrt{\frac{2}{35}}$	$\text{Root}[-5587 + 188\,283 \#1^2 - 2\,012\,024 \#1^4 + 6\,592\,880 \#1^6 \&, 6]$
$\sqrt{\frac{1959}{4}}$	$\text{Root}[-103 + 6773 \#1^2 - 102\,053 \#1^4 + 412\,055 \#1^6 \&, 6]$	$\frac{2}{\sqrt{35}}$	$\text{Root}[-103 + 6773 \#1^2 - 102\,053 \#1^4 + 412\,055 \#1^6 \&, 6]$
$\frac{11}{\sqrt{193}}$	$\text{Root}[-2483 + 122\,939 \#1^2 - 1\,598\,688 \#1^4 + 5\,274\,304 \#1^6 \&, 6]$	0	$\text{Root}[-2483 + 122\,939 \#1^2 - 1\,598\,688 \#1^4 + 5\,274\,304 \#1^6 \&, 6]$
$7\sqrt{\frac{5}{386}}$	$\text{Root}[-1915 + 54\,011 \#1^2 - 481\,656 \#1^4 + 1\,318\,576 \#1^6 \&, 6]$	0	$\text{Root}[-1915 + 54\,011 \#1^2 - 481\,656 \#1^4 + 1\,318\,576 \#1^6 \&, 6]$
$\sqrt{\frac{858}{1351}}$	$\text{Root}[-1107 + 44\,235 \#1^2 - 507\,276 \#1^4 + 1\,648\,220 \#1^6 \&, 6]$	$\sqrt{\frac{2}{35}}$	$\text{Root}[-1107 + 44\,235 \#1^2 - 507\,276 \#1^4 + 1\,648\,220 \#1^6 \&, 6]$
$\frac{11}{\sqrt{193}}$	$\text{Root}[-431 + 104\,159 \#1^2 - 1\,612\,352 \#1^4 + 5\,274\,304 \#1^6 \&, 6]$	0	$\text{Root}[-431 + 104\,159 \#1^2 - 1\,612\,352 \#1^4 + 5\,274\,304 \#1^6 \&, 6]$
$\sqrt{\frac{122}{193}}$	$\text{Root}[-106 + 3244 \#1^2 - 30\,317 \#1^4 + 82\,411 \#1^6 \&, 6]$	0	$\text{Root}[-106 + 3244 \#1^2 - 30\,317 \#1^4 + 82\,411 \#1^6 \&, 6]$
$\sqrt{\frac{1709}{2702}}$	$\text{Root}[-293 + 22\,461 \#1^2 - 292\,312 \#1^4 + 941\,840 \#1^6 \&, 6]$	$\sqrt{\frac{2}{35}}$	$\text{Root}[-293 + 22\,461 \#1^2 - 292\,312 \#1^4 + 941\,840 \#1^6 \&, 6]$
$9\sqrt{\frac{3}{386}}$	$\text{Root}[-1211 + 48\,123 \#1^2 - 488\,488 \#1^4 + 1\,318\,576 \#1^6 \&, 6]$	0	$\text{Root}[-1211 + 48\,123 \#1^2 - 488\,488 \#1^4 + 1\,318\,576 \#1^6 \&, 6]$
$\frac{11}{\sqrt{193}}$	$\text{Root}[-103 + 10\,667 \#1^2 - 122\,976 \#1^4 + 329\,644 \#1^6 \&, 6]$	0	$\text{Root}[-103 + 10\,667 \#1^2 - 122\,976 \#1^4 + 329\,644 \#1^6 \&, 6]$

Dimensions[angle7]

{74, 6}

orderedroots[minipoly[chi7]]

{-5, Root[-808 + 281 #1 - 30 #1² + #1³ &, 1], 9,
Root[-808 + 281 #1 - 30 #1² + #1³ &, 2], 11, Root[-808 + 281 #1 - 30 #1² + #1³ &, 3]}

chi7

$(-11 + x)^2 (-9 + x)^{12} (5 + x)^{32} (-808 + 281 x - 30 x^2 + x^3)$

coeff[chi7, (x + 5) (x - 9) (x - 11)] // FullSimplify

{Root[988 160 + 58 176 #1 - 519 #1² + #1³ &, 2],
Root[988 160 + 58 176 #1 - 519 #1² + #1³ &, 1],
Root[988 160 + 58 176 #1 - 519 #1² + #1³ &, 3]}

combinationangle[{Root[988 160 + 58 176 #1 - 519 #1² + #1³ &, 2],

Root[988 160 + 58 176 #1 - 519 #1² + #1³ &, 1],

Root[988 160 + 58 176 #1 - 519 #1² + #1³ &, 3]}],

{8, 22}, {2, 4, 6}, angle7] // FullSimplify

{Root[232 921 099 161 - 48 338 639 236 #1² + 2 882 445 430 #1⁴ - 42 445 508 #1⁶ + 182 329 #1⁸ &, 7], Root[
232 921 099 161 - 48 338 639 236 #1² + 2 882 445 430 #1⁴ - 42 445 508 #1⁶ + 182 329 #1⁸ &, 3],
Root[232 921 099 161 - 48 338 639 236 #1² + 2 882 445 430 #1⁴ - 42 445 508 #1⁶ + 182 329 #1⁸ &, 8], Root[
232 921 099 161 - 48 338 639 236 #1² + 2 882 445 430 #1⁴ - 42 445 508 #1⁶ + 182 329 #1⁸ &, 4]}]

```
compatible[{Root[
  232 921 099 161 - 48 338 639 236 #1^2 + 2 882 445 430 #1^4 - 42 445 508 #1^6 + 182 329 #1^8 &,
  7], Root[232 921 099 161 - 48 338 639 236 #1^2 +
    2 882 445 430 #1^4 - 42 445 508 #1^6 + 182 329 #1^8 &, 3], Root[
  232 921 099 161 - 48 338 639 236 #1^2 + 2 882 445 430 #1^4 - 42 445 508 #1^6 + 182 329 #1^8 &,
  8], Root[232 921 099 161 - 48 338 639 236 #1^2 +
    2 882 445 430 #1^4 - 42 445 508 #1^6 + 182 329 #1^8 &, 4]]}]
```

0

```
chi8 = (-11 + x)^3 (-9 + x)^11 (-8 + x) (5 + x)^32 (83 - 20 x + x^2)
(-11 + x)^3 (-9 + x)^11 (-8 + x) (5 + x)^32 (83 - 20 x + x^2)
```

```
list8 =
```

```
{(-9 + x) (83 - 20 x + x^2) (41 - 14 x + x^2), -30 595 + 21 241 x - 5618 x^2 + 710 x^3 - 43 x^4 + x^5,
-30 563 + 21 241 x - 5618 x^2 + 710 x^3 - 43 x^4 + x^5, -30 707 + 21 257 x - 5618 x^2 +
710 x^3 - 43 x^4 + x^5, -30 675 + 21 257 x - 5618 x^2 + 710 x^3 - 43 x^4 + x^5, (-9 + x)
(3299 - 1974 x + 404 x^2 - 34 x^3 + x^4), (-7 + x) (4237 - 2404 x + 458 x^2 - 36 x^3 + x^4),
(-9 + x) (3315 - 1974 x + 404 x^2 - 34 x^3 + x^4), -29 803 + 21 081 x - 5610 x^2 +
710 x^3 - 43 x^4 + x^5, (-7 + x) (4253 - 2404 x + 458 x^2 - 36 x^3 + x^4), (-9 + x)
(3331 - 1974 x + 404 x^2 - 34 x^3 + x^4), -29 947 + 21 097 x - 5610 x^2 + 710 x^3 - 43 x^4 + x^5,
(31 - 12 x + x^2) (-965 + 307 x - 31 x^2 + x^3), (-9 + x) (3347 - 1974 x + 404 x^2 - 34 x^3 + x^4),
-30 091 + 21 113 x - 5610 x^2 + 710 x^3 - 43 x^4 + x^5,
-30 059 + 21 113 x - 5610 x^2 + 710 x^3 - 43 x^4 + x^5,
-30 027 + 21 113 x - 5610 x^2 + 710 x^3 - 43 x^4 + x^5,
-30 235 + 21 129 x - 5610 x^2 + 710 x^3 - 43 x^4 + x^5,
-30 203 + 21 129 x - 5610 x^2 + 710 x^3 - 43 x^4 + x^5,
(113 - 22 x + x^2) (-267 + 135 x - 21 x^2 + x^3),
-30 315 + 21 145 x - 5610 x^2 + 710 x^3 - 43 x^4 + x^5,
(-11 + x) (2753 - 1672 x + 358 x^2 - 32 x^3 + x^4), (-9 + x)^2 (-355 + 179 x - 25 x^2 + x^3),
(-9 + x) (3211 - 1966 x + 404 x^2 - 34 x^3 + x^4), (-9 + x) (-7 + x) (-461 + 215 x - 27 x^2 + x^3),
-29 011 + 20 921 x - 5602 x^2 + 710 x^3 - 43 x^4 + x^5,
(-9 + x) (3243 - 1966 x + 404 x^2 - 34 x^3 + x^4),
(-7 + x) (4165 - 2396 x + 458 x^2 - 36 x^3 + x^4),
(-9 + x) (3259 - 1966 x + 404 x^2 - 34 x^3 + x^4),
-29 299 + 20 953 x - 5602 x^2 + 710 x^3 - 43 x^4 + x^5,
(-7 + x) (113 - 22 x + x^2) (37 - 14 x + x^2), (-9 + x) (3275 - 1966 x + 404 x^2 - 34 x^3 + x^4),
-29 443 + 20 969 x - 5602 x^2 + 710 x^3 - 43 x^4 + x^5, -29 411 + 20 969 x -
```

$$\begin{aligned}
& 5602x^2 + 710x^3 - 43x^4 + x^5, (-9+x)(3291 - 1966x + 404x^2 - 34x^3 + x^4), \\
& -29587 + 20985x - 5602x^2 + 710x^3 - 43x^4 + x^5, -29555 + 20985x - 5602x^2 + \\
& 710x^3 - 43x^4 + x^5, -29523 + 20985x - 5602x^2 + 710x^3 - 43x^4 + x^5, \\
& (-9+x)(3307 - 1966x + 404x^2 - 34x^3 + x^4), -29731 + 21001x - 5602x^2 + \\
& 710x^3 - 43x^4 + x^5, -29699 + 21001x - 5602x^2 + 710x^3 - 43x^4 + x^5, \\
& (-11+x)(87 - 20x + x^2)(31 - 12x + x^2), (-11+x)(2713 - 1664x + 358x^2 - 32x^3 + x^4), \\
& (-9+x)^2(-347 + 179x - 25x^2 + x^3), (-9+x)(3139 - 1958x + 404x^2 - 34x^3 + x^4), \\
& (-9+x)(3155 - 1958x + 404x^2 - 34x^3 + x^4), (113 - 22x + x^2)(-251 + 135x - 21x^2 + x^3), \\
& (-9+x)(-7+x)(-453 + 215x - 27x^2 + x^3), -28507 + 20793x - \\
& 5594x^2 + 710x^3 - 43x^4 + x^5, (-9+x)(3187 - 1958x + 404x^2 - 34x^3 + x^4), \\
& (-7+x)(4093 - 2388x + 458x^2 - 36x^3 + x^4), -28619 + 20809x - 5594x^2 + \\
& 710x^3 - 43x^4 + x^5, (-9+x)(3203 - 1958x + 404x^2 - 34x^3 + x^4), \\
& -28795 + 20825x - 5594x^2 + 710x^3 - 43x^4 + x^5, \\
& (-7+x)(4109 - 2388x + 458x^2 - 36x^3 + x^4), (-9+x)(87 - 20x + x^2)(37 - 14x + x^2), \\
& -28939 + 20841x - 5594x^2 + 710x^3 - 43x^4 + x^5, -28907 + 20841x - \\
& 5594x^2 + 710x^3 - 43x^4 + x^5, (-11+x)(-7+x)(-375 + 183x - 25x^2 + x^3), \\
& (-9+x)(3235 - 1958x + 404x^2 - 34x^3 + x^4), -29083 + 20857x - 5594x^2 + \\
& 710x^3 - 43x^4 + x^5, (-11+x)(2641 - 1656x + 358x^2 - 32x^3 + x^4), \\
& (-9+x)(3251 - 1958x + 404x^2 - 34x^3 + x^4), (-11+x) \\
& (2657 - 1656x + 358x^2 - 32x^3 + x^4), (-9+x)(3067 - 1950x + 404x^2 - 34x^3 + x^4), \\
& (-9+x)(3083 - 1950x + 404x^2 - 34x^3 + x^4), (-9+x) \\
& (3099 - 1950x + 404x^2 - 34x^3 + x^4), -27859 + 20649x - 5586x^2 + 710x^3 - 43x^4 + x^5, \\
& (-9+x)(-7+x)(-445 + 215x - 27x^2 + x^3), -28003 + 20665x - 5586x^2 + \\
& 710x^3 - 43x^4 + x^5, (-9+x)(3131 - 1950x + 404x^2 - 34x^3 + x^4), \\
& (-7+x)(4021 - 2380x + 458x^2 - 36x^3 + x^4), -28115 + 20681x - 5586x^2 + \\
& 710x^3 - 43x^4 + x^5, (-9+x)(3147 - 1950x + 404x^2 - 34x^3 + x^4), \\
& -28291 + 20697x - 5586x^2 + 710x^3 - 43x^4 + x^5, (-11+x)(-7+x) \\
& (-367 + 183x - 25x^2 + x^3), (-9+x)(3163 - 1950x + 404x^2 - 34x^3 + x^4), \\
& (-11+x)(2585 - 1648x + 358x^2 - 32x^3 + x^4), (-11+x)(-9+x) \\
& (-289 + 151x - 23x^2 + x^3), (-9+x)(2995 - 1942x + 404x^2 - 34x^3 + x^4), \\
& (-9+x)(3011 - 1942x + 404x^2 - 34x^3 + x^4), (-9+x)(-3+x) \\
& (-1009 + 311x - 31x^2 + x^3), -27211 + 20505x - 5578x^2 + 710x^3 - 43x^4 + x^5, \\
& (-9+x)(3043 - 1942x + 404x^2 - 34x^3 + x^4), -27355 + 20521x - 5578x^2 + 710x^3 - \\
& 43x^4 + x^5, (-9+x)(-7+x)(-437 + 215x - 27x^2 + x^3), -27499 + 20537x - \\
& 5578x^2 + 710x^3 - 43x^4 + x^5, (-11+x)(2497 - 1640x + 358x^2 - 32x^3 + x^4), \\
& (-9+x)(3075 - 1942x + 404x^2 - 34x^3 + x^4), (-11+x)(-7+x) \\
& (-359 + 183x - 25x^2 + x^3), (-11+x)(-9+x)(-281 + 151x - 23x^2 + x^3), (-9+x) \\
& (2939 - 1934x + 404x^2 - 34x^3 + x^4), (-9+x)(2955 - 1934x + 404x^2 - 34x^3 + x^4), \\
& (-9+x)(2971 - 1934x + 404x^2 - 34x^3 + x^4), -26707 + 20377x - 5570x^2 + \\
& 710x^3 - 43x^4 + x^5, (-9+x)(2987 - 1934x + 404x^2 - 34x^3 + x^4), \\
& (-11+x)(2441 - 1632x + 358x^2 - 32x^3 + x^4), (-13+x)(-11+x)(-9+x) \\
& (-7+x)(-3+x), (-9+x)(2867 - 1926x + 404x^2 - 34x^3 + x^4), \\
& (-9+x)(2883 - 1926x + 404x^2 - 34x^3 + x^4), (-13+x)(-9+x)
\end{aligned}$$

$$\begin{aligned} &(-223 + 131x - 21x^2 + x^3), (-11 + x)(2369 - 1624x + 358x^2 - 32x^3 + x^4), \\ &(-11 + x)(-9 + x)(-265 + 151x - 23x^2 + x^3), \\ &(-9 + x)(2811 - 1918x + 404x^2 - 34x^3 + x^4), (-11 + x)(-9 + x) \\ &(-257 + 151x - 23x^2 + x^3), (-11 + x)(-9 + x)(-249 + 151x - 23x^2 + x^3) \}; \end{aligned}$$

Length[list8]

106

A8 = CoefficientList[list8, x];

A8 // MatrixForm

-30627	21241	-5618	710	-43	1
-30595	21241	-5618	710	-43	1
-30563	21241	-5618	710	-43	1
-30707	21257	-5618	710	-43	1
-30675	21257	-5618	710	-43	1
-29691	21065	-5610	710	-43	1
-29659	21065	-5610	710	-43	1
-29835	21081	-5610	710	-43	1
-29803	21081	-5610	710	-43	1
-29771	21081	-5610	710	-43	1
-29979	21097	-5610	710	-43	1
-29947	21097	-5610	710	-43	1
-29915	21097	-5610	710	-43	1
-30123	21113	-5610	710	-43	1
-30091	21113	-5610	710	-43	1
-30059	21113	-5610	710	-43	1
-30027	21113	-5610	710	-43	1
-30235	21129	-5610	710	-43	1
-30203	21129	-5610	710	-43	1
-30171	21129	-5610	710	-43	1
-30315	21145	-5610	710	-43	1
-30283	21145	-5610	710	-43	1
-28755	20889	-5602	710	-43	1
-28899	20905	-5602	710	-43	1
-29043	20921	-5602	710	-43	1
-29011	20921	-5602	710	-43	1
-29187	20937	-5602	710	-43	1
-29155	20937	-5602	710	-43	1
-29331	20953	-5602	710	-43	1
-29299	20953	-5602	710	-43	1
-29267	20953	-5602	710	-43	1
-29475	20969	-5602	710	-43	1
-29443	20969	-5602	710	-43	1
-29411	20969	-5602	710	-43	1
-29619	20985	-5602	710	-43	1
-29587	20985	-5602	710	-43	1
-29555	20985	-5602	710	-43	1
-29523	20985	-5602	710	-43	1
-29763	21001	-5602	710	-43	1
-29731	21001	-5602	710	-43	1
-29699	21001	-5602	710	-43	1
-29667	21001	-5602	710	-43	1
-29843	21017	-5602	710	-43	1

-28107	20745	-5594	710	-43	1
-28251	20761	-5594	710	-43	1
-28395	20777	-5594	710	-43	1
-28363	20777	-5594	710	-43	1
-28539	20793	-5594	710	-43	1
-28507	20793	-5594	710	-43	1
-28683	20809	-5594	710	-43	1
-28651	20809	-5594	710	-43	1
-28619	20809	-5594	710	-43	1
-28827	20825	-5594	710	-43	1
-28795	20825	-5594	710	-43	1
-28763	20825	-5594	710	-43	1
-28971	20841	-5594	710	-43	1
-28939	20841	-5594	710	-43	1
-28907	20841	-5594	710	-43	1
-28875	20841	-5594	710	-43	1
-29115	20857	-5594	710	-43	1
-29083	20857	-5594	710	-43	1
-29051	20857	-5594	710	-43	1
-29259	20873	-5594	710	-43	1
-29227	20873	-5594	710	-43	1
-27603	20617	-5586	710	-43	1
-27747	20633	-5586	710	-43	1
-27891	20649	-5586	710	-43	1
-27859	20649	-5586	710	-43	1
-28035	20665	-5586	710	-43	1
-28003	20665	-5586	710	-43	1
-28179	20681	-5586	710	-43	1
-28147	20681	-5586	710	-43	1
-28115	20681	-5586	710	-43	1
-28323	20697	-5586	710	-43	1
-28291	20697	-5586	710	-43	1
-28259	20697	-5586	710	-43	1
-28467	20713	-5586	710	-43	1
-28435	20713	-5586	710	-43	1
-28611	20729	-5586	710	-43	1
-26955	20473	-5578	710	-43	1
-27099	20489	-5578	710	-43	1
-27243	20505	-5578	710	-43	1
-27211	20505	-5578	710	-43	1
-27387	20521	-5578	710	-43	1
-27355	20521	-5578	710	-43	1
-27531	20537	-5578	710	-43	1
-27499	20537	-5578	710	-43	1
-27467	20537	-5578	710	-43	1
-27675	20553	-5578	710	-43	1
-27643	20553	-5578	710	-43	1
-27819	20569	-5578	710	-43	1
-26451	20345	-5570	710	-43	1
-26595	20361	-5570	710	-43	1
-26739	20377	-5570	710	-43	1
-26707	20377	-5570	710	-43	1
-26883	20393	-5570	710	-43	1
-26851	20393	-5570	710	-43	1
-27027	20409	-5570	710	-43	1

-25803	20201	-5562	710	-43	1
-25947	20217	-5562	710	-43	1
-26091	20233	-5562	710	-43	1
-26059	20233	-5562	710	-43	1
-26235	20249	-5562	710	-43	1
-25299	20073	-5554	710	-43	1
-25443	20089	-5554	710	-43	1
-24651	19929	-5546	710	-43	1

Dimensions[A8]

{106, 6}

gpart[chi8]

{-1491907, 1038793, -275106, 34790, -2107, 49}

FindInstance[$n[1] \geq 0 \ \&\& \ n[2] \geq 0 \ \&\& \ n[3] \geq 0 \ \&\& \ n[4] \geq 0 \ \&\& \ n[5] \geq 0 \ \&\& \ n[6] \geq 0 \ \&\& \ n[7] \geq 0 \ \&\& \ n[8] \geq 0 \ \&\& \ n[9] \geq 0 \ \&\& \ n[10] \geq 0 \ \&\& \ n[11] \geq 0 \ \&\& \ n[12] \geq 0 \ \&\& \ n[13] \geq 0 \ \&\& \ n[14] \geq 0 \ \&\& \ n[15] \geq 0 \ \&\& \ n[16] \geq 0 \ \&\& \ n[17] \geq 0 \ \&\& \ n[18] \geq 0 \ \&\& \ n[19] \geq 0 \ \&\& \ n[20] \geq 0 \ \&\& \ n[21] \geq 0 \ \&\& \ n[22] \geq 0 \ \&\& \ n[23] \geq 0 \ \&\& \ n[24] \geq 0 \ \&\& \ n[25] \geq 0 \ \&\& \ n[26] \geq 0 \ \&\& \ n[27] \geq 0 \ \&\& \ n[28] \geq 0 \ \&\& \ n[29] \geq 0 \ \&\& \ n[30] \geq 0 \ \&\& \ n[31] \geq 0 \ \&\& \ n[32] \geq 0 \ \&\& \ n[33] \geq 0 \ \&\& \ n[34] \geq 0 \ \&\& \ n[35] \geq 0 \ \&\& \ n[36] \geq 0 \ \&\& \ n[37] \geq 0 \ \&\& \ n[38] \geq 0 \ \&\& \ n[39] \geq 0 \ \&\& \ n[40] \geq 0 \ \&\& \ n[41] \geq 0 \ \&\& \ n[42] \geq 0 \ \&\& \ n[43] \geq 0 \ \&\& \ n[44] \geq 0 \ \&\& \ n[45] \geq 0 \ \&\& \ n[46] \geq 0 \ \&\& \ n[47] \geq 0 \ \&\& \ n[48] \geq 0 \ \&\& \ n[49] \geq 0 \ \&\& \ n[50] \geq 0 \ \&\& \ n[51] \geq 0 \ \&\& \ n[52] \geq 0 \ \&\& \ n[53] \geq 0 \ \&\& \ n[54] \geq 0 \ \&\& \ n[55] \geq 0 \ \&\& \ n[56] \geq 0 \ \&\& \ n[57] \geq 0 \ \&\& \ n[58] \geq 0 \ \&\& \ n[59] \geq 0 \ \&\& \ n[60] \geq 0 \ \&\& \ n[61] \geq 0 \ \&\& \ n[62] \geq 0 \ \&\& \ n[63] \geq 0 \ \&\& \ n[64] \geq 0 \ \&\& \ n[65] \geq 0 \ \&\& \ n[66] \geq 0 \ \&\& \ n[67] \geq 0 \ \&\& \ n[68] \geq 0 \ \&\& \ n[69] \geq 0 \ \&\& \ n[70] \geq 0 \ \&\& \ n[71] \geq 0 \ \&\& \ n[72] \geq 0 \ \&\& \ n[73] \geq 0 \ \&\& \ n[74] \geq 0 \ \&\& \ n[75] \geq 0 \ \&\& \ n[76] \geq 0 \ \&\& \ n[77] \geq 0 \ \&\& \ n[78] \geq 0 \ \&\& \ n[79] \geq 0 \ \&\& \ n[80] \geq 0 \ \&\& \ n[81] \geq 0 \ \&\& \ n[82] \geq 0 \ \&\& \ n[83] \geq 0 \ \&\& \ n[84] \geq 0 \ \&\& \ n[85] \geq 0 \ \&\& \ n[86] \geq 0 \ \&\& \ n[87] \geq 0 \ \&\& \ n[88] \geq 0 \ \&\& \ n[89] \geq 0 \ \&\& \ n[90] \geq 0 \ \&\& \ n[91] \geq 0 \ \&\& \ n[92] \geq 0 \ \&\& \ n[93] \geq 0 \ \&\& \ n[94] \geq 0 \ \&\& \ n[95] \geq 0 \ \&\& \ n[96] \geq 0 \ \&\& \ n[97] \geq 0 \ \&\& \ n[98] \geq 0 \ \&\& \ n[99] \geq 0 \ \&\& \ n[100] \geq 0 \ \&\& \ n[101] \geq 0 \ \&\& \ n[102] \geq 0 \ \&\& \ n[103] \geq 0 \ \&\& \ n[104] \geq 0 \ \&\& \ n[105] \geq 0 \ \&\& \ n[106] \geq 0 \ \&\& \text{Array}[n, 106].A8 == \text{gpart}[\text{chi8}], \text{Array}[n, 106], \text{Integers}]$

{ {n[1] → 0, n[2] → 0, n[3] → 0, n[4] → 0, n[5] → 31, n[6] → 0, n[7] → 0, n[8] → 0, n[9] → 0, n[10] → 0, n[11] → 0, n[12] → 0, n[13] → 0, n[14] → 0, n[15] → 0, n[16] → 0, n[17] → 2, n[18] → 0, n[19] → 0, n[20] → 7, n[21] → 0, n[22] → 7, n[23] → 0, n[24] → 0, n[25] → 0, n[26] → 0, n[27] → 0, n[28] → 0, n[29] → 0, n[30] → 0, n[31] → 0, n[32] → 0, n[33] → 0, n[34] → 0, n[35] → 0, n[36] → 0, n[37] → 0, n[38] → 0, n[39] → 0, n[40] → 0, n[41] → 0, n[42] → 0, n[43] → 0, n[44] → 0, n[45] → 0, n[46] → 0, n[47] → 0, n[48] → 0, n[49] → 0, n[50] → 0, n[51] → 0, n[52] → 0, n[53] → 0, n[54] → 0, n[55] → 0, n[56] → 0, n[57] → 0, n[58] → 0, n[59] → 2, n[60] → 0, n[61] → 0, n[62] → 0, n[63] → 0, n[64] → 0, n[65] → 0, n[66] → 0, n[67] → 0, n[68] → 0, n[69] → 0, n[70] → 0, n[71] → 0, n[72] → 0, n[73] → 0, n[74] → 0, n[75] → 0, n[76] → 0, n[77] → 0, n[78] → 0, n[79] → 0, n[80] → 0, n[81] → 0, n[82] → 0, n[83] → 0, n[84] → 0, n[85] → 0, n[86] → 0, n[87] → 0, n[88] → 0, n[89] → 0, n[90] → 0, n[91] → 0, n[92] → 0, n[93] → 0, n[94] → 0, n[95] → 0, n[96] → 0, n[97] → 0, n[98] → 0, n[99] → 0, n[100] → 0, n[101] → 0, n[102] → 0, n[103] → 0, n[104] → 0, n[105] → 0, n[106] → 0 } }

```

Array[n, 106] /. {n[1] → 0, n[2] → 0, n[3] → 0, n[4] → 0, n[5] → 31, n[6] → 0, n[7] → 0,
  n[8] → 0, n[9] → 0, n[10] → 0, n[11] → 0, n[12] → 0, n[13] → 0, n[14] → 0, n[15] → 0,
  n[16] → 0, n[17] → 2, n[18] → 0, n[19] → 0, n[20] → 7, n[21] → 0, n[22] → 7,
  n[23] → 0, n[24] → 0, n[25] → 0, n[26] → 0, n[27] → 0, n[28] → 0, n[29] → 0,
  n[30] → 0, n[31] → 0, n[32] → 0, n[33] → 0, n[34] → 0, n[35] → 0, n[36] → 0,
  n[37] → 0, n[38] → 0, n[39] → 0, n[40] → 0, n[41] → 0, n[42] → 0, n[43] → 0,
  n[44] → 0, n[45] → 0, n[46] → 0, n[47] → 0, n[48] → 0, n[49] → 0, n[50] → 0,
  n[51] → 0, n[52] → 0, n[53] → 0, n[54] → 0, n[55] → 0, n[56] → 0, n[57] → 0,
  n[58] → 0, n[59] → 2, n[60] → 0, n[61] → 0, n[62] → 0, n[63] → 0, n[64] → 0,
  n[65] → 0, n[66] → 0, n[67] → 0, n[68] → 0, n[69] → 0, n[70] → 0, n[71] → 0,
  n[72] → 0, n[73] → 0, n[74] → 0, n[75] → 0, n[76] → 0, n[77] → 0, n[78] → 0,
  n[79] → 0, n[80] → 0, n[81] → 0, n[82] → 0, n[83] → 0, n[84] → 0, n[85] → 0,
  n[86] → 0, n[87] → 0, n[88] → 0, n[89] → 0, n[90] → 0, n[91] → 0, n[92] → 0,
  n[93] → 0, n[94] → 0, n[95] → 0, n[96] → 0, n[97] → 0, n[98] → 0, n[99] → 0,
  n[100] → 0, n[101] → 0, n[102] → 0, n[103] → 0, n[104] → 0, n[105] → 0, n[106] → 0}
{0, 0, 0, 0, 31, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 2, 0, 0, 7, 0, 7, 0, 0, 0, 0,
  0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
  0, 0, 0, 0, 0, 2, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
  0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0}

```

5, 17, 20, 22, 59

```

FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] == 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 && n[20] ≥ 0 &&
  n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 && n[26] ≥ 0 && n[27] ≥ 0 &&
  n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 && n[33] ≥ 0 &&
  n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 && n[39] ≥ 0 &&
  n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 && n[45] ≥ 0 &&
  n[46] ≥ 0 && n[47] ≥ 0 && n[48] ≥ 0 && n[49] ≥ 0 && n[50] ≥ 0 && n[51] ≥ 0 &&
  n[52] ≥ 0 && n[53] ≥ 0 && n[54] ≥ 0 && n[55] ≥ 0 && n[56] ≥ 0 && n[57] ≥ 0 &&
  n[58] ≥ 0 && n[59] ≥ 0 && n[60] ≥ 0 && n[61] ≥ 0 && n[62] ≥ 0 && n[63] ≥ 0 &&
  n[64] ≥ 0 && n[65] ≥ 0 && n[66] ≥ 0 && n[67] ≥ 0 && n[68] ≥ 0 && n[69] ≥ 0 &&
  n[70] ≥ 0 && n[71] ≥ 0 && n[72] ≥ 0 && n[73] ≥ 0 && n[74] ≥ 0 && n[75] ≥ 0 &&
  n[76] ≥ 0 && n[77] ≥ 0 && n[78] ≥ 0 && n[79] ≥ 0 && n[80] ≥ 0 && n[81] ≥ 0 &&
  n[82] ≥ 0 && n[83] ≥ 0 && n[84] ≥ 0 && n[85] ≥ 0 && n[86] ≥ 0 && n[87] ≥ 0 &&
  n[88] ≥ 0 && n[89] ≥ 0 && n[90] ≥ 0 && n[91] ≥ 0 && n[92] ≥ 0 && n[93] ≥ 0 &&
  n[94] ≥ 0 && n[95] ≥ 0 && n[96] ≥ 0 && n[97] ≥ 0 && n[98] ≥ 0 && n[99] ≥ 0 &&
  n[100] ≥ 0 && n[101] ≥ 0 && n[102] ≥ 0 && n[103] ≥ 0 && n[104] ≥ 0 && n[105] ≥ 0 &&
  n[106] ≥ 0 && Array[n, 106].A8 == gpart[chi8], Array[n, 106], Integers]

```

```
{}
```

```

FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] == 0 && n[18] ≥ 0 && n[19] ≥ 0 &&
  n[20] ≥ 0 && n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 && n[26] ≥ 0 &&
  n[27] ≥ 0 && n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 && n[33] ≥ 0 &&
  n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 && n[39] ≥ 0 &&
  n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 && n[45] ≥ 0 &&
  n[46] ≥ 0 && n[47] ≥ 0 && n[48] ≥ 0 && n[49] ≥ 0 && n[50] ≥ 0 && n[51] ≥ 0 &&
  n[52] ≥ 0 && n[53] ≥ 0 && n[54] ≥ 0 && n[55] ≥ 0 && n[56] ≥ 0 && n[57] ≥ 0 &&
  n[58] ≥ 0 && n[59] ≥ 0 && n[60] ≥ 0 && n[61] ≥ 0 && n[62] ≥ 0 && n[63] ≥ 0 &&
  n[64] ≥ 0 && n[65] ≥ 0 && n[66] ≥ 0 && n[67] ≥ 0 && n[68] ≥ 0 && n[69] ≥ 0 &&
  n[70] ≥ 0 && n[71] ≥ 0 && n[72] ≥ 0 && n[73] ≥ 0 && n[74] ≥ 0 && n[75] ≥ 0 &&
  n[76] ≥ 0 && n[77] ≥ 0 && n[78] ≥ 0 && n[79] ≥ 0 && n[80] ≥ 0 && n[81] ≥ 0 &&
  n[82] ≥ 0 && n[83] ≥ 0 && n[84] ≥ 0 && n[85] ≥ 0 && n[86] ≥ 0 && n[87] ≥ 0 &&
  n[88] ≥ 0 && n[89] ≥ 0 && n[90] ≥ 0 && n[91] ≥ 0 && n[92] ≥ 0 && n[93] ≥ 0 &&
  n[94] ≥ 0 && n[95] ≥ 0 && n[96] ≥ 0 && n[97] ≥ 0 && n[98] ≥ 0 && n[99] ≥ 0 &&
  n[100] ≥ 0 && n[101] ≥ 0 && n[102] ≥ 0 && n[103] ≥ 0 && n[104] ≥ 0 && n[105] ≥ 0 &&
  n[106] ≥ 0 && Array[n, 106].A8 == gpart[chi8], Array[n, 106], Integers]
{{n[1] → 0, n[2] → 0, n[3] → 0, n[4] → 0, n[5] → 32, n[6] → 0, n[7] → 0, n[8] → 0,
  n[9] → 0, n[10] → 1, n[11] → 0, n[12] → 0, n[13] → 0, n[14] → 0, n[15] → 0,
  n[16] → 0, n[17] → 0, n[18] → 0, n[19] → 0, n[20] → 3, n[21] → 0, n[22] → 8,
  n[23] → 0, n[24] → 0, n[25] → 0, n[26] → 0, n[27] → 0, n[28] → 0, n[29] → 0,
  n[30] → 0, n[31] → 0, n[32] → 0, n[33] → 0, n[34] → 0, n[35] → 0, n[36] → 0,
  n[37] → 0, n[38] → 4, n[39] → 0, n[40] → 0, n[41] → 0, n[42] → 1, n[43] → 0,
  n[44] → 0, n[45] → 0, n[46] → 0, n[47] → 0, n[48] → 0, n[49] → 0, n[50] → 0,
  n[51] → 0, n[52] → 0, n[53] → 0, n[54] → 0, n[55] → 0, n[56] → 0, n[57] → 0,
  n[58] → 0, n[59] → 0, n[60] → 0, n[61] → 0, n[62] → 0, n[63] → 0, n[64] → 0,
  n[65] → 0, n[66] → 0, n[67] → 0, n[68] → 0, n[69] → 0, n[70] → 0, n[71] → 0,
  n[72] → 0, n[73] → 0, n[74] → 0, n[75] → 0, n[76] → 0, n[77] → 0, n[78] → 0,
  n[79] → 0, n[80] → 0, n[81] → 0, n[82] → 0, n[83] → 0, n[84] → 0, n[85] → 0,
  n[86] → 0, n[87] → 0, n[88] → 0, n[89] → 0, n[90] → 0, n[91] → 0, n[92] → 0,
  n[93] → 0, n[94] → 0, n[95] → 0, n[96] → 0, n[97] → 0, n[98] → 0, n[99] → 0,
  n[100] → 0, n[101] → 0, n[102] → 0, n[103] → 0, n[104] → 0, n[105] → 0, n[106] → 0}}

```

```

FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 &&
  n[20] == 0 && n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 &&
  n[26] ≥ 0 && n[27] ≥ 0 && n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 &&
  n[33] ≥ 0 && n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 && n[39] ≥ 0 &&
  n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 && n[45] ≥ 0 &&
  n[46] ≥ 0 && n[47] ≥ 0 && n[48] ≥ 0 && n[49] ≥ 0 && n[50] ≥ 0 && n[51] ≥ 0 &&
  n[52] ≥ 0 && n[53] ≥ 0 && n[54] ≥ 0 && n[55] ≥ 0 && n[56] ≥ 0 && n[57] ≥ 0 &&
  n[58] ≥ 0 && n[59] ≥ 0 && n[60] ≥ 0 && n[61] ≥ 0 && n[62] ≥ 0 && n[63] ≥ 0 &&
  n[64] ≥ 0 && n[65] ≥ 0 && n[66] ≥ 0 && n[67] ≥ 0 && n[68] ≥ 0 && n[69] ≥ 0 &&
  n[70] ≥ 0 && n[71] ≥ 0 && n[72] ≥ 0 && n[73] ≥ 0 && n[74] ≥ 0 && n[75] ≥ 0 &&
  n[76] ≥ 0 && n[77] ≥ 0 && n[78] ≥ 0 && n[79] ≥ 0 && n[80] ≥ 0 && n[81] ≥ 0 &&
  n[82] ≥ 0 && n[83] ≥ 0 && n[84] ≥ 0 && n[85] ≥ 0 && n[86] ≥ 0 && n[87] ≥ 0 &&
  n[88] ≥ 0 && n[89] ≥ 0 && n[90] ≥ 0 && n[91] ≥ 0 && n[92] ≥ 0 && n[93] ≥ 0 &&
  n[94] ≥ 0 && n[95] ≥ 0 && n[96] ≥ 0 && n[97] ≥ 0 && n[98] ≥ 0 && n[99] ≥ 0 &&
  n[100] ≥ 0 && n[101] ≥ 0 && n[102] ≥ 0 && n[103] ≥ 0 && n[104] ≥ 0 && n[105] ≥ 0 &&
  n[106] ≥ 0 && Array[n, 106].A8 == gpart[chi8], Array[n, 106], Integers]
{{n[1] → 0, n[2] → 0, n[3] → 7, n[4] → 0, n[5] → 21, n[6] → 0, n[7] → 1, n[8] → 0,
  n[9] → 0, n[10] → 0, n[11] → 0, n[12] → 0, n[13] → 0, n[14] → 0, n[15] → 0,
  n[16] → 0, n[17] → 0, n[18] → 0, n[19] → 0, n[20] → 0, n[21] → 0, n[22] → 19,
  n[23] → 1, n[24] → 0, n[25] → 0, n[26] → 0, n[27] → 0, n[28] → 0, n[29] → 0,
  n[30] → 0, n[31] → 0, n[32] → 0, n[33] → 0, n[34] → 0, n[35] → 0, n[36] → 0,
  n[37] → 0, n[38] → 0, n[39] → 0, n[40] → 0, n[41] → 0, n[42] → 0, n[43] → 0,
  n[44] → 0, n[45] → 0, n[46] → 0, n[47] → 0, n[48] → 0, n[49] → 0, n[50] → 0,
  n[51] → 0, n[52] → 0, n[53] → 0, n[54] → 0, n[55] → 0, n[56] → 0, n[57] → 0,
  n[58] → 0, n[59] → 0, n[60] → 0, n[61] → 0, n[62] → 0, n[63] → 0, n[64] → 0,
  n[65] → 0, n[66] → 0, n[67] → 0, n[68] → 0, n[69] → 0, n[70] → 0, n[71] → 0,
  n[72] → 0, n[73] → 0, n[74] → 0, n[75] → 0, n[76] → 0, n[77] → 0, n[78] → 0,
  n[79] → 0, n[80] → 0, n[81] → 0, n[82] → 0, n[83] → 0, n[84] → 0, n[85] → 0,
  n[86] → 0, n[87] → 0, n[88] → 0, n[89] → 0, n[90] → 0, n[91] → 0, n[92] → 0,
  n[93] → 0, n[94] → 0, n[95] → 0, n[96] → 0, n[97] → 0, n[98] → 0, n[99] → 0,
  n[100] → 0, n[101] → 0, n[102] → 0, n[103] → 0, n[104] → 0, n[105] → 0, n[106] → 0}}

```

```

FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 && n[20] ≥ 0 &&
  n[21] ≥ 0 && n[22] == 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 && n[26] ≥ 0 &&
  n[27] ≥ 0 && n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 && n[33] ≥ 0 &&
  n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 && n[39] ≥ 0 &&
  n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 && n[45] ≥ 0 &&
  n[46] ≥ 0 && n[47] ≥ 0 && n[48] ≥ 0 && n[49] ≥ 0 && n[50] ≥ 0 && n[51] ≥ 0 &&
  n[52] ≥ 0 && n[53] ≥ 0 && n[54] ≥ 0 && n[55] ≥ 0 && n[56] ≥ 0 && n[57] ≥ 0 &&
  n[58] ≥ 0 && n[59] ≥ 0 && n[60] ≥ 0 && n[61] ≥ 0 && n[62] ≥ 0 && n[63] ≥ 0 &&
  n[64] ≥ 0 && n[65] ≥ 0 && n[66] ≥ 0 && n[67] ≥ 0 && n[68] ≥ 0 && n[69] ≥ 0 &&
  n[70] ≥ 0 && n[71] ≥ 0 && n[72] ≥ 0 && n[73] ≥ 0 && n[74] ≥ 0 && n[75] ≥ 0 &&
  n[76] ≥ 0 && n[77] ≥ 0 && n[78] ≥ 0 && n[79] ≥ 0 && n[80] ≥ 0 && n[81] ≥ 0 &&
  n[82] ≥ 0 && n[83] ≥ 0 && n[84] ≥ 0 && n[85] ≥ 0 && n[86] ≥ 0 && n[87] ≥ 0 &&
  n[88] ≥ 0 && n[89] ≥ 0 && n[90] ≥ 0 && n[91] ≥ 0 && n[92] ≥ 0 && n[93] ≥ 0 &&
  n[94] ≥ 0 && n[95] ≥ 0 && n[96] ≥ 0 && n[97] ≥ 0 && n[98] ≥ 0 && n[99] ≥ 0 &&
  n[100] ≥ 0 && n[101] ≥ 0 && n[102] ≥ 0 && n[103] ≥ 0 && n[104] ≥ 0 && n[105] ≥ 0 &&
  n[106] ≥ 0 && Array[n, 106].A8 == gpart[chi8], Array[n, 106], Integers]
{ }

```

```

FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 && n[20] ≥ 0 &&
  n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 && n[26] ≥ 0 && n[27] ≥ 0 &&
  n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 && n[33] ≥ 0 &&
  n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 && n[39] ≥ 0 &&
  n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 && n[45] ≥ 0 &&
  n[46] ≥ 0 && n[47] ≥ 0 && n[48] ≥ 0 && n[49] ≥ 0 && n[50] ≥ 0 && n[51] ≥ 0 &&
  n[52] ≥ 0 && n[53] ≥ 0 && n[54] ≥ 0 && n[55] ≥ 0 && n[56] ≥ 0 && n[57] ≥ 0 &&
  n[58] ≥ 0 && n[59] == 0 && n[60] ≥ 0 && n[61] ≥ 0 && n[62] ≥ 0 && n[63] ≥ 0 &&
  n[64] ≥ 0 && n[65] ≥ 0 && n[66] ≥ 0 && n[67] ≥ 0 && n[68] ≥ 0 && n[69] ≥ 0 &&
  n[70] ≥ 0 && n[71] ≥ 0 && n[72] ≥ 0 && n[73] ≥ 0 && n[74] ≥ 0 && n[75] ≥ 0 &&
  n[76] ≥ 0 && n[77] ≥ 0 && n[78] ≥ 0 && n[79] ≥ 0 && n[80] ≥ 0 && n[81] ≥ 0 &&
  n[82] ≥ 0 && n[83] ≥ 0 && n[84] ≥ 0 && n[85] ≥ 0 && n[86] ≥ 0 && n[87] ≥ 0 &&
  n[88] ≥ 0 && n[89] ≥ 0 && n[90] ≥ 0 && n[91] ≥ 0 && n[92] ≥ 0 && n[93] ≥ 0 &&
  n[94] ≥ 0 && n[95] ≥ 0 && n[96] ≥ 0 && n[97] ≥ 0 && n[98] ≥ 0 && n[99] ≥ 0 &&
  n[100] ≥ 0 && n[101] ≥ 0 && n[102] ≥ 0 && n[103] ≥ 0 && n[104] ≥ 0 && n[105] ≥ 0 &&
  n[106] ≥ 0 && Array[n, 106].A8 == gpart[chi8], Array[n, 106], Integers]

{{n[1] → 0, n[2] → 0, n[3] → 0, n[4] → 0, n[5] → 33, n[6] → 0, n[7] → 0, n[8] → 0,
  n[9] → 0, n[10] → 0, n[11] → 0, n[12] → 0, n[13] → 0, n[14] → 0, n[15] → 0,
  n[16] → 0, n[17] → 2, n[18] → 0, n[19] → 0, n[20] → 3, n[21] → 0, n[22] → 8,
  n[23] → 0, n[24] → 0, n[25] → 0, n[26] → 0, n[27] → 0, n[28] → 0, n[29] → 0,
  n[30] → 0, n[31] → 0, n[32] → 0, n[33] → 0, n[34] → 0, n[35] → 0, n[36] → 0,
  n[37] → 0, n[38] → 0, n[39] → 0, n[40] → 0, n[41] → 0, n[42] → 2, n[43] → 0,
  n[44] → 0, n[45] → 0, n[46] → 0, n[47] → 0, n[48] → 0, n[49] → 0, n[50] → 0,
  n[51] → 0, n[52] → 0, n[53] → 0, n[54] → 0, n[55] → 0, n[56] → 0, n[57] → 0,
  n[58] → 0, n[59] → 0, n[60] → 0, n[61] → 0, n[62] → 0, n[63] → 0, n[64] → 0,
  n[65] → 0, n[66] → 0, n[67] → 0, n[68] → 0, n[69] → 0, n[70] → 0, n[71] → 0,
  n[72] → 0, n[73] → 0, n[74] → 0, n[75] → 0, n[76] → 0, n[77] → 0, n[78] → 0,
  n[79] → 0, n[80] → 0, n[81] → 0, n[82] → 0, n[83] → 0, n[84] → 0, n[85] → 0,
  n[86] → 0, n[87] → 0, n[88] → 1, n[89] → 0, n[90] → 0, n[91] → 0, n[92] → 0,
  n[93] → 0, n[94] → 0, n[95] → 0, n[96] → 0, n[97] → 0, n[98] → 0, n[99] → 0,
  n[100] → 0, n[101] → 0, n[102] → 0, n[103] → 0, n[104] → 0, n[105] → 0, n[106] → 0}}

list8[{5, 22}] * mu[chi8] // Factor
{(-11 + x)2 (-9 + x)10 (5 + x)31 (-30675 + 21257 x - 5618 x2 + 710 x3 - 43 x4 + x5),
  (-11 + x)3 (-9 + x)10 (5 + x)31 (2753 - 1672 x + 358 x2 - 32 x3 + x4) }

Array[m, 6].Transpose[A8]
{-30627 m[1] + 21241 m[2] - 5618 m[3] + 710 m[4] - 43 m[5] + m[6],
 -30595 m[1] + 21241 m[2] - 5618 m[3] + 710 m[4] - 43 m[5] + m[6],
 -30563 m[1] + 21241 m[2] - 5618 m[3] + 710 m[4] - 43 m[5] + m[6],
 -30707 m[1] + 21257 m[2] - 5618 m[3] + 710 m[4] - 43 m[5] + m[6],
 -30675 m[1] + 21257 m[2] - 5618 m[3] + 710 m[4] - 43 m[5] + m[6],
 -29691 m[1] + 21065 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6],
 -29659 m[1] + 21065 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6],
 -29835 m[1] + 21081 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6],

```

$-29\,803\,m[1] + 21\,081\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,771\,m[1] + 21\,081\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,979\,m[1] + 21\,097\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,947\,m[1] + 21\,097\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,915\,m[1] + 21\,097\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-30\,123\,m[1] + 21\,113\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-30\,091\,m[1] + 21\,113\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-30\,059\,m[1] + 21\,113\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-30\,027\,m[1] + 21\,113\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-30\,235\,m[1] + 21\,129\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-30\,203\,m[1] + 21\,129\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-30\,171\,m[1] + 21\,129\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-30\,315\,m[1] + 21\,145\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-30\,283\,m[1] + 21\,145\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,755\,m[1] + 20\,889\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,899\,m[1] + 20\,905\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,043\,m[1] + 20\,921\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,011\,m[1] + 20\,921\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,187\,m[1] + 20\,937\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,155\,m[1] + 20\,937\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,331\,m[1] + 20\,953\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,299\,m[1] + 20\,953\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,267\,m[1] + 20\,953\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,475\,m[1] + 20\,969\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,443\,m[1] + 20\,969\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,411\,m[1] + 20\,969\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,619\,m[1] + 20\,985\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,587\,m[1] + 20\,985\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,555\,m[1] + 20\,985\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,523\,m[1] + 20\,985\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,763\,m[1] + 21\,001\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,731\,m[1] + 21\,001\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,699\,m[1] + 21\,001\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,667\,m[1] + 21\,001\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,843\,m[1] + 21\,017\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,107\,m[1] + 20\,745\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,251\,m[1] + 20\,761\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,395\,m[1] + 20\,777\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,363\,m[1] + 20\,777\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,539\,m[1] + 20\,793\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,507\,m[1] + 20\,793\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,683\,m[1] + 20\,809\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,651\,m[1] + 20\,809\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,619\,m[1] + 20\,809\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,827\,m[1] + 20\,825\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,795\,m[1] + 20\,825\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,763\,m[1] + 20\,825\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$

$-28\,971\,m[1] + 20\,841\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,939\,m[1] + 20\,841\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,907\,m[1] + 20\,841\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,875\,m[1] + 20\,841\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,115\,m[1] + 20\,857\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,083\,m[1] + 20\,857\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,051\,m[1] + 20\,857\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,259\,m[1] + 20\,873\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-29\,227\,m[1] + 20\,873\,m[2] - 5594\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-27\,603\,m[1] + 20\,617\,m[2] - 5586\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-27\,747\,m[1] + 20\,633\,m[2] - 5586\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-27\,891\,m[1] + 20\,649\,m[2] - 5586\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-27\,859\,m[1] + 20\,649\,m[2] - 5586\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,035\,m[1] + 20\,665\,m[2] - 5586\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,003\,m[1] + 20\,665\,m[2] - 5586\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,179\,m[1] + 20\,681\,m[2] - 5586\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,147\,m[1] + 20\,681\,m[2] - 5586\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,115\,m[1] + 20\,681\,m[2] - 5586\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,323\,m[1] + 20\,697\,m[2] - 5586\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,291\,m[1] + 20\,697\,m[2] - 5586\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,259\,m[1] + 20\,697\,m[2] - 5586\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,467\,m[1] + 20\,713\,m[2] - 5586\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,435\,m[1] + 20\,713\,m[2] - 5586\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-28\,611\,m[1] + 20\,729\,m[2] - 5586\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-26\,955\,m[1] + 20\,473\,m[2] - 5578\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-27\,099\,m[1] + 20\,489\,m[2] - 5578\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-27\,243\,m[1] + 20\,505\,m[2] - 5578\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-27\,211\,m[1] + 20\,505\,m[2] - 5578\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-27\,387\,m[1] + 20\,521\,m[2] - 5578\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-27\,355\,m[1] + 20\,521\,m[2] - 5578\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-27\,531\,m[1] + 20\,537\,m[2] - 5578\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-27\,499\,m[1] + 20\,537\,m[2] - 5578\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-27\,467\,m[1] + 20\,537\,m[2] - 5578\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-27\,675\,m[1] + 20\,553\,m[2] - 5578\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-27\,643\,m[1] + 20\,553\,m[2] - 5578\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-27\,819\,m[1] + 20\,569\,m[2] - 5578\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-26\,451\,m[1] + 20\,345\,m[2] - 5570\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-26\,595\,m[1] + 20\,361\,m[2] - 5570\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-26\,739\,m[1] + 20\,377\,m[2] - 5570\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-26\,707\,m[1] + 20\,377\,m[2] - 5570\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-26\,883\,m[1] + 20\,393\,m[2] - 5570\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-26\,851\,m[1] + 20\,393\,m[2] - 5570\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-27\,027\,m[1] + 20\,409\,m[2] - 5570\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-25\,803\,m[1] + 20\,201\,m[2] - 5562\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-25\,947\,m[1] + 20\,217\,m[2] - 5562\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-26\,091\,m[1] + 20\,233\,m[2] - 5562\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-26\,059\,m[1] + 20\,233\,m[2] - 5562\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$

$-26\,235\,m[1] + 20\,249\,m[2] - 5562\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-25\,299\,m[1] + 20\,073\,m[2] - 5554\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-25\,443\,m[1] + 20\,089\,m[2] - 5554\,m[3] + 710\,m[4] - 43\,m[5] + m[6],$
 $-24\,651\,m[1] + 19\,929\,m[2] - 5546\,m[3] + 710\,m[4] - 43\,m[5] + m[6]\}$

`Array[m, 6].gpart[chi8]`

$-1\,491\,907\,m[1] + 1\,038\,793\,m[2] - 275\,106\,m[3] + 34\,790\,m[4] - 2107\,m[5] + 49\,m[6]$

`FindInstance[`

$-1\,491\,907\,m[1] + 1\,038\,793\,m[2] - 275\,106\,m[3] + 34\,790\,m[4] - 2107\,m[5] + 49\,m[6] < 0 \&\&$
 $-30\,627\,m[1] + 21\,241\,m[2] - 5618\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-30\,595\,m[1] + 21\,241\,m[2] - 5618\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-30\,563\,m[1] + 21\,241\,m[2] - 5618\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-30\,707\,m[1] + 21\,257\,m[2] - 5618\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-30\,675\,m[1] + 21\,257\,m[2] - 5618\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,691\,m[1] + 21\,065\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,659\,m[1] + 21\,065\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,835\,m[1] + 21\,081\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,803\,m[1] + 21\,081\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,771\,m[1] + 21\,081\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,979\,m[1] + 21\,097\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,947\,m[1] + 21\,097\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,915\,m[1] + 21\,097\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-30\,123\,m[1] + 21\,113\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-30\,091\,m[1] + 21\,113\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-30\,059\,m[1] + 21\,113\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-30\,027\,m[1] + 21\,113\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-30\,235\,m[1] + 21\,129\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-30\,203\,m[1] + 21\,129\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-30\,171\,m[1] + 21\,129\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-30\,315\,m[1] + 21\,145\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-30\,283\,m[1] + 21\,145\,m[2] - 5610\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-28\,755\,m[1] + 20\,889\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-28\,899\,m[1] + 20\,905\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,043\,m[1] + 20\,921\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,011\,m[1] + 20\,921\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,187\,m[1] + 20\,937\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,155\,m[1] + 20\,937\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,331\,m[1] + 20\,953\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,299\,m[1] + 20\,953\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,267\,m[1] + 20\,953\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,475\,m[1] + 20\,969\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,443\,m[1] + 20\,969\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,411\,m[1] + 20\,969\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,619\,m[1] + 20\,985\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,587\,m[1] + 20\,985\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$
 $-29\,555\,m[1] + 20\,985\,m[2] - 5602\,m[3] + 710\,m[4] - 43\,m[5] + m[6] \geq 0 \&\&$

[illegible]

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-27355 m[1] + 20521 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27531 m[1] + 20537 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27499 m[1] + 20537 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27467 m[1] + 20537 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27675 m[1] + 20553 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27643 m[1] + 20553 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27819 m[1] + 20569 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26451 m[1] + 20345 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26595 m[1] + 20361 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26739 m[1] + 20377 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26707 m[1] + 20377 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26883 m[1] + 20393 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26851 m[1] + 20393 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27027 m[1] + 20409 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-25803 m[1] + 20201 m[2] - 5562 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-25947 m[1] + 20217 m[2] - 5562 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26091 m[1] + 20233 m[2] - 5562 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26059 m[1] + 20233 m[2] - 5562 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26235 m[1] + 20249 m[2] - 5562 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-25299 m[1] + 20073 m[2] - 5554 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-25443 m[1] + 20089 m[2] - 5554 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-24651 m[1] + 19929 m[2] - 5546 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0,
Array[m, 6], Integers]
{}

FindInstance[
-1491907 m[1] + 1038793 m[2] - 275106 m[3] + 34790 m[4] - 2107 m[5] + 49 m[6] < 0 &&
-30627 m[1] + 21241 m[2] - 5618 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-30595 m[1] + 21241 m[2] - 5618 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-30563 m[1] + 21241 m[2] - 5618 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-30707 m[1] + 21257 m[2] - 5618 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-30675 m[1] + 21257 m[2] - 5618 m[3] + 710 m[4] - 43 m[5] + m[6] < 0 &&
-29691 m[1] + 21065 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29659 m[1] + 21065 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29835 m[1] + 21081 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29803 m[1] + 21081 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29771 m[1] + 21081 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29979 m[1] + 21097 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29947 m[1] + 21097 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29915 m[1] + 21097 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-30123 m[1] + 21113 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-30091 m[1] + 21113 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-30059 m[1] + 21113 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-30027 m[1] + 21113 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-30235 m[1] + 21129 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&

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[illegible]

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-27 747 m[1] + 20 633 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 891 m[1] + 20 649 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 859 m[1] + 20 649 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 035 m[1] + 20 665 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 003 m[1] + 20 665 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 179 m[1] + 20 681 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 147 m[1] + 20 681 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 115 m[1] + 20 681 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 323 m[1] + 20 697 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 291 m[1] + 20 697 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 259 m[1] + 20 697 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 467 m[1] + 20 713 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 435 m[1] + 20 713 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 611 m[1] + 20 729 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 955 m[1] + 20 473 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 099 m[1] + 20 489 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 243 m[1] + 20 505 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 211 m[1] + 20 505 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 387 m[1] + 20 521 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 355 m[1] + 20 521 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 531 m[1] + 20 537 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 499 m[1] + 20 537 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 467 m[1] + 20 537 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 675 m[1] + 20 553 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 643 m[1] + 20 553 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 819 m[1] + 20 569 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 451 m[1] + 20 345 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 595 m[1] + 20 361 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 739 m[1] + 20 377 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 707 m[1] + 20 377 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 883 m[1] + 20 393 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 851 m[1] + 20 393 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 027 m[1] + 20 409 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-25 803 m[1] + 20 201 m[2] - 5562 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-25 947 m[1] + 20 217 m[2] - 5562 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 091 m[1] + 20 233 m[2] - 5562 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 059 m[1] + 20 233 m[2] - 5562 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 235 m[1] + 20 249 m[2] - 5562 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-25 299 m[1] + 20 073 m[2] - 5554 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-25 443 m[1] + 20 089 m[2] - 5554 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-24 651 m[1] + 19 929 m[2] - 5546 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0,
Array[m, 6], Integers]
{ {m[1] → -7404, m[2] → -66 627,
  m[3] → -540 420, m[4] → 0, m[5] → 0, m[6] → -1 847 108 310} }

```

```

Array[m, 6] /. {m[1] → -7404, m[2] → -66 627,
  m[3] → -540 420, m[4] → 0, m[5] → 0, m[6] → -1 847 108 310}
{-7404, -66 627, -540 420, 0, 0, -1 847 108 310}

GCD[-7404, -66 627, -540 420, 0, 0, -1 847 108 310]
3

{-7404, -66 627, -540 420, 0, 0, -1 847 108 310} / 3
{-2468, -22 209, -180 140, 0, 0, -615 702 770}

Reverse[{-2468, -22 209, -180 140, 0, 0, -615 702 770}]
{-615 702 770, 0, 0, -180 140, -22 209, -2468}

{-2468, -22 209, -180 140, 0, 0, -615 702 770}.gpart[chi8]
-368 151

{-2468, -22 209, -180 140, 0, 0, -615 702 770}.Transpose[A8]
{169 817, 90 841, 11 865, 11 913, -67 063, 327 433, 248 457, 327 481, 248 505,
 169 529, 327 529, 248 553, 169 577, 327 577, 248 601, 169 625, 90 649, 248 649,
 169 673, 90 697, 90 745, 11 769, 485 049, 485 097, 485 145, 406 169, 485 193,
 406 217, 485 241, 406 265, 327 289, 485 289, 406 313, 327 337, 485 337, 406 361,
 327 385, 248 409, 485 385, 406 409, 327 433, 248 457, 327 481, 642 761, 642 809,
 642 857, 563 881, 642 905, 563 929, 642 953, 563 977, 485 001, 643 001, 564 025,
 485 049, 643 049, 564 073, 485 097, 406 121, 643 097, 564 121, 485 145, 643 145,
 564 169, 800 521, 800 569, 800 617, 721 641, 800 665, 721 689, 800 713, 721 737,
 642 761, 800 761, 721 785, 642 809, 800 809, 721 833, 800 857, 958 233, 958 281,
 958 329, 879 353, 958 377, 879 401, 958 425, 879 449, 800 473, 958 473, 879 497,
 958 521, 1 115 993, 1 116 041, 1 116 089, 1 037 113, 1 116 137, 1 037 161, 1 116 185,
 1 273 705, 1 273 753, 1 273 801, 1 194 825, 1 273 849, 1 431 465, 1 431 513, 1 589 177}

FindInstance[
-1 491 907 m[1] + 1 038 793 m[2] - 275 106 m[3] + 34 790 m[4] - 2107 m[5] + 49 m[6] < 0 &&
-30 627 m[1] + 21 241 m[2] - 5618 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-30 595 m[1] + 21 241 m[2] - 5618 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-30 563 m[1] + 21 241 m[2] - 5618 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-30 707 m[1] + 21 257 m[2] - 5618 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-30 675 m[1] + 21 257 m[2] - 5618 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29 691 m[1] + 21 065 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29 659 m[1] + 21 065 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29 835 m[1] + 21 081 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29 803 m[1] + 21 081 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29 771 m[1] + 21 081 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29 979 m[1] + 21 097 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29 947 m[1] + 21 097 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29 915 m[1] + 21 097 m[2] - 5610 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&

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[illegible]

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-29 083 m[1] + 20 857 m[2] - 5594 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29 051 m[1] + 20 857 m[2] - 5594 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29 259 m[1] + 20 873 m[2] - 5594 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-29 227 m[1] + 20 873 m[2] - 5594 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 603 m[1] + 20 617 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 747 m[1] + 20 633 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 891 m[1] + 20 649 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 859 m[1] + 20 649 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 035 m[1] + 20 665 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 003 m[1] + 20 665 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 179 m[1] + 20 681 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 147 m[1] + 20 681 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 115 m[1] + 20 681 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 323 m[1] + 20 697 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 291 m[1] + 20 697 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 259 m[1] + 20 697 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 467 m[1] + 20 713 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 435 m[1] + 20 713 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-28 611 m[1] + 20 729 m[2] - 5586 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 955 m[1] + 20 473 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 099 m[1] + 20 489 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 243 m[1] + 20 505 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 211 m[1] + 20 505 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 387 m[1] + 20 521 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 355 m[1] + 20 521 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 531 m[1] + 20 537 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 499 m[1] + 20 537 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 467 m[1] + 20 537 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 675 m[1] + 20 553 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 643 m[1] + 20 553 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 819 m[1] + 20 569 m[2] - 5578 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 451 m[1] + 20 345 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 595 m[1] + 20 361 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 739 m[1] + 20 377 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 707 m[1] + 20 377 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 883 m[1] + 20 393 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 851 m[1] + 20 393 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-27 027 m[1] + 20 409 m[2] - 5570 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-25 803 m[1] + 20 201 m[2] - 5562 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-25 947 m[1] + 20 217 m[2] - 5562 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 091 m[1] + 20 233 m[2] - 5562 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 059 m[1] + 20 233 m[2] - 5562 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-26 235 m[1] + 20 249 m[2] - 5562 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-25 299 m[1] + 20 073 m[2] - 5554 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-25 443 m[1] + 20 089 m[2] - 5554 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0 &&
-24 651 m[1] + 19 929 m[2] - 5546 m[3] + 710 m[4] - 43 m[5] + m[6] ≥ 0,
Array[m, 6], Integers]

```

```
{m[1] → -12 691, m[2] → -114 217,
 m[3] → -1 027 960, m[4] → 0, m[5] → 0, m[6] → -3 736 443 160}}
```

```
Array[m, 6] /. {m[1] → -12 691, m[2] → -114 217,
 m[3] → -1 027 960, m[4] → 0, m[5] → 0, m[6] → -3 736 443 160}
{-12 691, -114 217, -1 027 960, 0, 0, -3 736 443 160}
```

```
GCD[-12 691, -114 217, -1 027 960, 0, 0, -3 736 443 160]
```

```
1
```

```
Reverse[{-12 691, -114 217, -1 027 960, 0, 0, -3 736 443 160}]
```

```
{-3 736 443 160, 0, 0, -1 027 960, -114 217, -12 691}
```

```
{-12 691, -114 217, -1 027 960, 0, 0, -3 736 443 160}.gpart[chi8]
```

```
-1 779 424
```

```
{-12 691, -114 217, -1 027 960, 0, 0, -3 736 443 160}.Transpose[A8]
```

```
{1 240 080, 833 968, 427 856, 427 888, 21 776, 1 239 816, 833 704, 1 239 848, 833 736,
 427 624, 1 239 880, 833 768, 427 656, 1 239 912, 833 800, 427 688, 21 576,
 833 832, 427 720, 21 608, 21 640, -384 472, 1 239 552, 1 239 584, 1 239 616,
 833 504, 1 239 648, 833 536, 1 239 680, 833 568, 427 456, 1 239 712, 833 600,
 427 488, 1 239 744, 833 632, 427 520, 21 408, 1 239 776, 833 664, 427 552, 21 440,
 427 584, 1 239 352, 1 239 384, 1 239 416, 833 304, 1 239 448, 833 336, 1 239 480,
 833 368, 427 256, 1 239 512, 833 400, 427 288, 1 239 544, 833 432, 427 320,
 21 208, 1 239 576, 833 464, 427 352, 1 239 608, 833 496, 1 239 184, 1 239 216,
 1 239 248, 833 136, 1 239 280, 833 168, 1 239 312, 833 200, 427 088, 1 239 344,
 833 232, 427 120, 1 239 376, 833 264, 1 239 408, 1 238 984, 1 239 016, 1 239 048,
 832 936, 1 239 080, 832 968, 1 239 112, 833 000, 426 888, 1 239 144, 833 032,
 1 239 176, 1 238 816, 1 238 848, 1 238 880, 832 768, 1 238 912, 832 800, 1 238 944,
 1 238 616, 1 238 648, 1 238 680, 832 568, 1 238 712, 1 238 448, 1 238 480, 1 238 248}
```

```
anglesq8 = anglesquaredmat[chi8, list8] // FullSimplify;
```

```
Dimensions[anglesq8]
```

```
{106, 6}
```

```
angle8 = Sqrt[anglesq8] // FullSimplify;
```

```
angle8 // MatrixForm
```

$$\begin{pmatrix} \sqrt{\frac{17}{26}} & 0 & \sqrt{\frac{7}{39}} & 0 & \frac{1}{\sqrt{6}} & 0 \\ \frac{15\sqrt{\frac{55}{7}}}{52} & \frac{1}{52}\sqrt{17 + \frac{47}{\sqrt{17}}} & \frac{\sqrt{\frac{59}{3}}}{13} & \frac{1}{\sqrt{14}} & \frac{\sqrt{\frac{7}{3}}}{4} & \frac{1}{52}\sqrt{17 - \frac{47}{\sqrt{17}}} \\ \frac{\sqrt{\frac{6187}{14}}}{26} & \text{Root}\left[1 - 289\sqrt[4]{1} + 11492\sqrt[4]{1}^4, 4\right] & \frac{3}{13} & \frac{1}{\sqrt{7}} & \frac{1}{2\sqrt{2}} & \text{Root}\left[1 - 289\sqrt[4]{1} + 11492\sqrt[4]{1}^4, 4\right] \\ \frac{\sqrt{\frac{12381}{7}}}{52} & \frac{1}{52}\sqrt{19 - \frac{27}{\sqrt{17}}} & \frac{\sqrt{\frac{43}{3}}}{13} & \frac{1}{\sqrt{7}} & \frac{\sqrt{\frac{5}{3}}}{4} & \frac{1}{52}\sqrt{19 + \frac{27}{\sqrt{17}}} \\ \sqrt{\frac{3095}{7}} & 1 & \sqrt{\frac{11}{3}} & \sqrt{3} & 1 & 1 \end{pmatrix}$$

$\frac{\sqrt{1759}}{52}$	$\frac{1}{52} \sqrt{83 + \frac{309}{\sqrt{17}}}$	$\frac{\sqrt{17}}{13}$	0	$\frac{\sqrt{3}}{4}$	$\frac{1}{52} \sqrt{83 - \frac{309}{\sqrt{17}}}$
$\frac{9 \sqrt{\frac{19}{14}}}{13}$	$\frac{1}{26} \sqrt{25 + \frac{89}{\sqrt{17}}}$	$\frac{\sqrt{\frac{19}{3}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{\sqrt{6}}$	$\frac{1}{26} \sqrt{25 - \frac{89}{\sqrt{17}}}$
$\frac{\sqrt{110}}{13}$	$\frac{1}{26} \sqrt{17 + \frac{47}{\sqrt{17}}}$	$\frac{\sqrt{\frac{67}{3}}}{13}$	0	$\frac{1}{\sqrt{6}}$	$\frac{1}{26} \sqrt{17 - \frac{47}{\sqrt{17}}}$
$\frac{\sqrt{\frac{12319}{7}}}{52}$	$\frac{1}{52} \sqrt{85 + \frac{235}{\sqrt{17}}}$	$\frac{\sqrt{\frac{35}{3}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{\sqrt{\frac{7}{3}}}{4}$	$\frac{1}{52} \sqrt{85 - \frac{235}{\sqrt{17}}}$
$\frac{\sqrt{\frac{6159}{14}}}{26}$	Root $[9 - 867 \# 1^2 + 11492 \# 1^4 \&, 4]$	$\frac{1}{13}$	$\frac{1}{\sqrt{7}}$	$\frac{1}{2 \sqrt{2}}$	Root $[9 - 867 \# 1^2 + 11492$
$\frac{\sqrt{1761}}{52}$	$\frac{1}{52} \sqrt{53 + \frac{67}{\sqrt{17}}}$	$\frac{\sqrt{\frac{83}{3}}}{13}$	0	$\frac{\sqrt{\frac{7}{3}}}{4}$	$\frac{1}{52} \sqrt{53 - \frac{67}{\sqrt{17}}}$
$\frac{\sqrt{\frac{6163}{14}}}{26}$	$\frac{1}{26} \sqrt{\frac{35}{2} + \frac{57}{2 \sqrt{17}}}$	$\frac{\sqrt{17}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{2 \sqrt{2}}$	Root $[13 - 1190 \# 1^2 + 2298$
$\frac{5 \sqrt{\frac{493}{7}}}{52}$	$\frac{1}{52} \sqrt{87 + \frac{161}{\sqrt{17}}}$	$\frac{\sqrt{\frac{19}{3}}}{13}$	$\frac{1}{\sqrt{7}}$	$\frac{\sqrt{\frac{5}{3}}}{4}$	$\frac{1}{52} \sqrt{87 - \frac{161}{\sqrt{17}}}$
$\frac{\sqrt{\frac{881}{2}}}{26}$	Root $[2 - 323 \# 1^2 + 11492 \# 1^4 \&, 3]$	$\frac{\sqrt{33}}{13}$	0	$\frac{1}{2 \sqrt{2}}$	Root $[2 - 323 \# 1^2 + 11492$
$\frac{\sqrt{\frac{12333}{7}}}{52}$	$\frac{1}{52} \sqrt{55 - \frac{7}{\sqrt{17}}}$	$\frac{\sqrt{\frac{67}{3}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{\sqrt{\frac{5}{3}}}{4}$	$\frac{1}{52} \sqrt{55 + \frac{7}{\sqrt{17}}}$
$\frac{\sqrt{\frac{3083}{7}}}{26}$	$\sqrt{\frac{9}{338} + \frac{5}{338 \sqrt{17}}}$	$\frac{\sqrt{\frac{35}{3}}}{13}$	$\frac{1}{\sqrt{7}}$	$\frac{1}{2 \sqrt{3}}$	Root $[2 - 153 \# 1^2 + 2873$
$\frac{\sqrt{\frac{12331}{7}}}{52}$	$\frac{1}{52} \sqrt{89 + \frac{87}{\sqrt{17}}}$	$\frac{1}{13}$	$\sqrt{\frac{3}{14}}$	$\frac{1}{4}$	$\frac{1}{52} \sqrt{89 - \frac{87}{\sqrt{17}}}$
$\frac{\sqrt{\frac{3085}{7}}}{26}$	$\frac{1}{13} \sqrt{\frac{5}{2} - \frac{8}{\sqrt{17}}}$	$\frac{\sqrt{\frac{83}{3}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{2 \sqrt{3}}$	$\frac{1}{13} \sqrt{\frac{5}{2} + \frac{8}{\sqrt{17}}}$
$\frac{3 \sqrt{\frac{1371}{7}}}{52}$	$\frac{1}{52} \sqrt{57 - \frac{81}{\sqrt{17}}}$	$\frac{\sqrt{17}}{13}$	$\frac{1}{\sqrt{7}}$	$\frac{1}{4}$	$\frac{1}{52} \sqrt{57 + \frac{81}{\sqrt{17}}}$
$\frac{\sqrt{\frac{6169}{14}}}{26}$	Root $[1 - 74 \# 1^2 + 1352 \# 1^4 \&, 3]$	$\frac{\sqrt{\frac{19}{3}}}{13}$	$\sqrt{\frac{3}{14}}$	$\frac{1}{2 \sqrt{6}}$	$\frac{1}{26} \sqrt{\frac{1}{2} (37 + \sqrt{17})}$
$\frac{\sqrt{\frac{12345}{7}}}{52}$	$\frac{1}{52} \sqrt{59 - \frac{155}{\sqrt{17}}}$	$\frac{\sqrt{\frac{35}{3}}}{13}$	$\sqrt{\frac{3}{14}}$	$\frac{1}{4 \sqrt{3}}$	$\frac{1}{52} \sqrt{59 + \frac{155}{\sqrt{17}}}$
$\frac{\sqrt{\frac{1543}{14}}}{13}$	$\frac{1}{26} \sqrt{19 - \frac{27}{\sqrt{17}}}$	$\frac{1}{13}$	$\sqrt{\frac{2}{7}}$	0	$\frac{1}{26} \sqrt{19 + \frac{27}{\sqrt{17}}}$
$\frac{5 \sqrt{\frac{35}{2}}}{26}$	Root $[8 - 1411 \# 1^2 + 11492 \# 1^4 \&, 4]$	$\frac{\sqrt{\frac{11}{3}}}{13}$	0	$\frac{\sqrt{\frac{5}{6}}}{2}$	Root $[8 - 1411 \# 1^2 + 11492$
$\frac{\sqrt{1751}}{52}$	$\frac{1}{52} \sqrt{151 + \frac{497}{\sqrt{17}}}$	$\frac{3}{13}$	0	$\frac{\sqrt{3}}{4}$	$\frac{1}{52} \sqrt{151 - \frac{497}{\sqrt{17}}}$
$\frac{\sqrt{\frac{219}{2}}}{13}$	Root $[4 - 289 \# 1^2 + 2873 \# 1^4 \&, 4]$	$\frac{\sqrt{\frac{43}{3}}}{13}$	0	$\frac{1}{\sqrt{6}}$	Root $[4 - 289 \# 1^2 + 2873$
$\frac{\sqrt{\frac{12263}{7}}}{52}$	$\frac{3}{52} \sqrt{17 + \frac{47}{\sqrt{17}}}$	$\frac{\sqrt{\frac{11}{3}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{\sqrt{\frac{7}{3}}}{4}$	$\frac{3}{52} \sqrt{17 - \frac{47}{\sqrt{17}}}$
$\frac{\sqrt{1753}}{52}$	$\frac{15 + \sqrt{17}}{52 \sqrt{2}}$	$\frac{\sqrt{\frac{59}{3}}}{13}$	0	$\frac{\sqrt{\frac{7}{3}}}{4}$	$-\frac{-15 + \sqrt{17}}{52 \sqrt{2}}$
$\frac{\sqrt{\frac{6135}{14}}}{26}$	Root $[43 - 2346 \# 1^2 + 22984 \# 1^4 \&, 4]$	$\frac{3}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{2 \sqrt{2}}$	Root $[43 - 2346 \# 1^2 + 2298$
$\frac{\sqrt{\frac{877}{2}}}{26}$	Root $[16 - 901 \# 1^2 + 11492 \# 1^4 \&, 4]$	$\frac{5}{13}$	0	$\frac{1}{2 \sqrt{2}}$	Root $[16 - 901 \# 1^2 + 11492$
$\frac{\sqrt{\frac{12277}{7}}}{52}$	$\frac{1}{52} \sqrt{123 + \frac{181}{\sqrt{17}}}$	$\frac{\sqrt{\frac{43}{3}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{\sqrt{\frac{5}{3}}}{4}$	$\frac{1}{52} \sqrt{123 - \frac{181}{\sqrt{17}}}$

$\frac{3}{26} \sqrt{\frac{341}{7}}$	$\frac{1}{26} \sqrt{35 + \frac{57}{\sqrt{17}}}$	$\frac{\sqrt{\frac{11}{3}}}{13}$	$\frac{1}{\sqrt{7}}$	$\frac{1}{2\sqrt{3}}$	$\frac{1}{26} \sqrt{35 - \frac{57}{\sqrt{17}}}$
$\frac{3}{4} \sqrt{\frac{15}{13}}$	Root $[2 - 119 \#1^2 + 1768 \#1^4 \&, 4]$	$\frac{\sqrt{\frac{7}{39}}}{13}$	0	$\frac{\sqrt{\frac{5}{3}}}{4}$	Root $[2 - 119 \#1^2 + 1768$
$\frac{\sqrt{\frac{3071}{7}}}{26}$	$\frac{1}{26} \sqrt{27 + \frac{15}{\sqrt{17}}}$	$\frac{\sqrt{\frac{59}{3}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{2\sqrt{3}}$	$\frac{1}{26} \sqrt{27 - \frac{15}{\sqrt{17}}}$
$\frac{\sqrt{\frac{12283}{7}}}{52}$	$\frac{1}{52} \sqrt{125 + \frac{107}{\sqrt{17}}}$	$\frac{3}{13}$	$\frac{1}{\sqrt{7}}$	$\frac{1}{4}$	$\frac{1}{52} \sqrt{125 - \frac{107}{\sqrt{17}}}$
$\frac{\sqrt{439}}{26}$	$\frac{1}{26} \sqrt{19 - \frac{27}{\sqrt{17}}}$	$\frac{\sqrt{\frac{107}{3}}}{13}$	0	$\frac{1}{2\sqrt{3}}$	$\frac{1}{26} \sqrt{19 + \frac{27}{\sqrt{17}}}$
$\frac{\sqrt{\frac{12291}{7}}}{52}$	$\frac{1}{52} \sqrt{93 - \frac{61}{\sqrt{17}}}$	$\frac{5}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{4}$	$\frac{1}{52} \sqrt{93 + \frac{61}{\sqrt{17}}}$
$\frac{\sqrt{\frac{6145}{14}}}{26}$	Root $[19 - 935 \#1^2 + 11492 \#1^4 \&, 3]$	$\frac{\sqrt{\frac{43}{3}}}{13}$	$\frac{1}{\sqrt{7}}$	$\frac{1}{2\sqrt{6}}$	$\frac{1}{26} \sqrt{\frac{55}{2} + \frac{7}{2\sqrt{17}}}$
$\frac{\sqrt{\frac{12289}{7}}}{52}$	$\frac{1}{52} \sqrt{127 + \frac{33}{\sqrt{17}}}$	$\frac{\sqrt{\frac{11}{3}}}{13}$	$\sqrt{\frac{3}{14}}$	$\frac{1}{4\sqrt{3}}$	$\frac{1}{52} \sqrt{127 - \frac{33}{\sqrt{17}}}$
$\frac{\sqrt{1757}}{52}$	$\frac{1}{52} \sqrt{61 - \frac{229}{\sqrt{17}}}$	$\frac{\sqrt{41}}{13}$	0	$\frac{1}{4}$	$\frac{1}{52} \sqrt{61 + \frac{229}{\sqrt{17}}}$
$\frac{\sqrt{\frac{473}{182}}}{2}$	Root $[1 - 102 \#1^2 + 1768 \#1^4 \&, 3]$	$\frac{\sqrt{\frac{7}{39}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{2\sqrt{6}}$	$\sqrt{\frac{3}{104} + \frac{7}{104\sqrt{17}}}$
$\frac{\sqrt{\frac{12297}{7}}}{52}$	$\frac{1}{52} \sqrt{95 - \frac{135}{\sqrt{17}}}$	$\frac{\sqrt{\frac{59}{3}}}{13}$	$\frac{1}{\sqrt{7}}$	$\frac{1}{4\sqrt{3}}$	$\frac{1}{52} \sqrt{95 + \frac{135}{\sqrt{17}}}$
$\frac{\sqrt{\frac{1537}{14}}}{13}$	$\frac{1}{13} \sqrt{7 - \frac{11}{2\sqrt{17}}}$	$\frac{3}{13}$	$\sqrt{\frac{3}{14}}$	0	$\frac{1}{13} \sqrt{7 + \frac{11}{2\sqrt{17}}}$
$\frac{\sqrt{\frac{769}{7}}}{13}$	$\frac{1}{13} \sqrt{5 - \frac{16}{\sqrt{17}}}$	$\frac{5}{13}$	$\frac{1}{\sqrt{7}}$	0	$\frac{1}{13} \sqrt{5 + \frac{16}{\sqrt{17}}}$
$\frac{\sqrt{1743}}{52}$	$\frac{1}{52} \sqrt{219 + \frac{685}{\sqrt{17}}}$	$\frac{1}{13}$	0	$\frac{\sqrt{3}}{4}$	$\frac{1}{52} \sqrt{219 - \frac{685}{\sqrt{17}}}$
$\frac{\sqrt{109}}{13}$	$\frac{1}{26} \sqrt{51 + \frac{141}{\sqrt{17}}}$	$\frac{\sqrt{\frac{19}{3}}}{13}$	0	$\frac{1}{\sqrt{6}}$	$\frac{1}{26} \sqrt{51 - \frac{141}{\sqrt{17}}}$
$\frac{\sqrt{1745}}{52}$	$\frac{1}{52} \sqrt{189 + \frac{443}{\sqrt{17}}}$	$\frac{\sqrt{\frac{35}{3}}}{13}$	0	$\frac{\sqrt{\frac{7}{3}}}{4}$	$\frac{1}{52} \sqrt{189 - \frac{443}{\sqrt{17}}}$
$\frac{\sqrt{\frac{6107}{14}}}{26}$	Root $[89 - 3502 \#1^2 + 22984 \#1^4 \&, 4]$	$\frac{1}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{2\sqrt{2}}$	Root $[89 - 3502 \#1^2 + 2298$
$\frac{3}{26} \sqrt{\frac{97}{2}}$	Root $[38 - 1479 \#1^2 + 11492 \#1^4 \&, 4]$	$\frac{\sqrt{17}}{13}$	0	$\frac{1}{2\sqrt{2}}$	Root $[38 - 1479 \#1^2 + 1149$
$\frac{11}{52} \sqrt{\frac{101}{7}}$	$\frac{1}{52} \sqrt{191 + \frac{369}{\sqrt{17}}}$	$\frac{\sqrt{\frac{19}{3}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{\sqrt{\frac{5}{3}}}{4}$	$\frac{1}{52} \sqrt{191 - \frac{369}{\sqrt{17}}}$
$\frac{\sqrt{1747}}{52}$	$\frac{1}{52} \sqrt{159 + \frac{201}{\sqrt{17}}}$	$\frac{\sqrt{\frac{67}{3}}}{13}$	0	$\frac{\sqrt{\frac{5}{3}}}{4}$	$\frac{1}{52} \sqrt{159 - \frac{201}{\sqrt{17}}}$
$\frac{\sqrt{\frac{3057}{7}}}{26}$	$\frac{1}{13} \sqrt{11 + \frac{31}{2\sqrt{17}}}$	$\frac{\sqrt{\frac{35}{3}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{2\sqrt{3}}$	$\frac{1}{13} \sqrt{11 - \frac{31}{2\sqrt{17}}}$
$\frac{\sqrt{\frac{12227}{7}}}{52}$	$\frac{1}{52} \sqrt{193 + \frac{295}{\sqrt{17}}}$	$\frac{1}{13}$	$\frac{1}{\sqrt{7}}$	$\frac{1}{4}$	$\frac{1}{52} \sqrt{193 - \frac{295}{\sqrt{17}}}$
$\frac{\sqrt{437}}{26}$	$\frac{1}{13} \sqrt{9 + \frac{5}{\sqrt{17}}}$	$\frac{\sqrt{\frac{83}{3}}}{13}$	0	$\frac{1}{2\sqrt{3}}$	$\frac{1}{13} \sqrt{9 - \frac{5}{\sqrt{17}}}$
$\frac{\sqrt{\frac{12235}{7}}}{52}$	$\frac{1}{52} \sqrt{161 + \frac{127}{\sqrt{17}}}$	$\frac{\sqrt{17}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{4}$	$\frac{1}{52} \sqrt{161 - \frac{127}{\sqrt{17}}}$
$\frac{\sqrt{\frac{6117}{14}}}{14}$	$\frac{1}{89} \sqrt{\frac{87}{14}}$	$\frac{\sqrt{\frac{19}{3}}}{13}$	1	1	Root $[17 - 1512 \#1^2 + 1140$

$\frac{26}{\sqrt{1749}}$	$\frac{26}{52} \sqrt{\frac{2}{2} + \frac{1}{2} \sqrt{17}}$	$\frac{13}{\sqrt{33}}$	$\frac{1}{\sqrt{7}}$	$\frac{1}{2\sqrt{6}}$	Root[47 - 1513 #1 + 1149
$\frac{\sqrt{1749}}{52}$	$\frac{1}{52} \sqrt{129 - \frac{41}{\sqrt{17}}}$	$\frac{\sqrt{33}}{13}$	0	$\frac{1}{4}$	$\frac{1}{52} \sqrt{129 + \frac{41}{\sqrt{17}}}$
$\frac{\sqrt{\frac{6121}{14}}}{26}$	$\frac{1}{26} \sqrt{\frac{73}{2} + \frac{3}{2} \sqrt{17}}$	$\frac{\sqrt{\frac{67}{3}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{2\sqrt{6}}$	$\frac{1}{26} \sqrt{\frac{73}{2} - \frac{3}{2} \sqrt{17}}$
$\frac{\sqrt{\frac{12241}{7}}}{52}$	$\frac{1}{52} \sqrt{163 + \frac{53}{\sqrt{17}}}$	$\frac{\sqrt{\frac{35}{3}}}{13}$	$\frac{1}{\sqrt{7}}$	$\frac{1}{4\sqrt{3}}$	$\frac{1}{52} \sqrt{163 - \frac{53}{\sqrt{17}}}$
$\frac{3\sqrt{\frac{85}{7}}}{13}$	$\frac{1}{26} \sqrt{45 + \frac{25}{\sqrt{17}}}$	$\frac{1}{13}$	$\sqrt{\frac{3}{14}}$	0	$\frac{1}{26} \sqrt{45 - \frac{25}{\sqrt{17}}}$
$\frac{5\sqrt{\frac{35}{2}}}{26}$	Root[18 - 969 #1 ² + 11492 #1 ⁴ &, 3]	$\frac{\sqrt{\frac{115}{3}}}{13}$	0	$\frac{1}{2\sqrt{6}}$	Root[18 - 969 #1 ² + 11492
$\frac{3\sqrt{\frac{1361}{7}}}{52}$	$\frac{1}{52} \sqrt{131 - \frac{115}{\sqrt{17}}}$	$\frac{\sqrt{\frac{83}{3}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{4\sqrt{3}}$	$\frac{1}{52} \sqrt{131 + \frac{115}{\sqrt{17}}}$
$\frac{\sqrt{\frac{1531}{14}}}{13}$	$\frac{\sqrt{37 - \sqrt{17}}}{26}$	$\frac{\sqrt{17}}{13}$	$\frac{1}{\sqrt{7}}$	0	$\frac{\sqrt{37 + \sqrt{17}}}{26}$
$\frac{\sqrt{1751}}{52}$	$\frac{1}{52} \sqrt{99 - \frac{283}{\sqrt{17}}}$	$\frac{\sqrt{\frac{131}{3}}}{13}$	0	$\frac{1}{4\sqrt{3}}$	$\frac{1}{52} \sqrt{99 + \frac{283}{\sqrt{17}}}$
$\frac{\sqrt{\frac{766}{7}}}{13}$	$\frac{1}{26} \sqrt{29 - \frac{59}{\sqrt{17}}}$	$\frac{\sqrt{33}}{13}$	$\frac{1}{\sqrt{14}}$	0	$\frac{1}{26} \sqrt{29 + \frac{59}{\sqrt{17}}}$
$\frac{3\sqrt{193}}{52}$	$\frac{1}{52} \sqrt{257 + \frac{631}{\sqrt{17}}}$	$\frac{\sqrt{\frac{11}{3}}}{13}$	0	$\frac{\sqrt{\frac{7}{3}}}{4}$	$\frac{1}{52} \sqrt{257 - \frac{631}{\sqrt{17}}}$
$\frac{\sqrt{\frac{869}{2}}}{26}$	$\frac{1}{52} (15 + \sqrt{17})$	$\frac{3}{13}$	0	$\frac{1}{2\sqrt{2}}$	$\frac{1}{52} (15 - \sqrt{17})$
$\frac{\sqrt{1739}}{52}$	$\frac{1}{52} \sqrt{227 + \frac{389}{\sqrt{17}}}$	$\frac{\sqrt{\frac{43}{3}}}{13}$	0	$\frac{\sqrt{\frac{5}{3}}}{4}$	$\frac{1}{52} \sqrt{227 - \frac{389}{\sqrt{17}}}$
$\frac{\sqrt{\frac{3043}{7}}}{26}$	$\frac{1}{26} \sqrt{61 + \frac{109}{\sqrt{17}}}$	$\frac{\sqrt{\frac{11}{3}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{2\sqrt{3}}$	$\frac{1}{26} \sqrt{61 - \frac{109}{\sqrt{17}}}$
$\frac{\sqrt{435}}{26}$	$\frac{1}{26} \sqrt{53 + \frac{67}{\sqrt{17}}}$	$\frac{\sqrt{\frac{59}{3}}}{13}$	0	$\frac{1}{2\sqrt{3}}$	$\frac{1}{26} \sqrt{53 - \frac{67}{\sqrt{17}}}$
$\frac{\sqrt{\frac{12179}{7}}}{52}$	$\frac{1}{52} \sqrt{229 + \frac{315}{\sqrt{17}}}$	$\frac{3}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{4}$	$\frac{1}{52} \sqrt{229 - \frac{315}{\sqrt{17}}}$
$\frac{\sqrt{1741}}{52}$	$\frac{1}{52} \sqrt{197 + \frac{147}{\sqrt{17}}}$	$\frac{5}{13}$	0	$\frac{1}{4}$	$\frac{1}{52} \sqrt{197 - \frac{147}{\sqrt{17}}}$
$\frac{3\sqrt{\frac{677}{14}}}{26}$	$\frac{1}{26} \sqrt{\frac{107}{2} + \frac{97}{2} \sqrt{17}}$	$\frac{\sqrt{\frac{43}{3}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{2\sqrt{6}}$	Root[137 - 3638 #1 ² + 2298
$\frac{\sqrt{\frac{12185}{7}}}{52}$	$\frac{1}{52} \sqrt{231 + \frac{241}{\sqrt{17}}}$	$\frac{\sqrt{\frac{11}{3}}}{13}$	$\frac{1}{\sqrt{7}}$	$\frac{1}{4\sqrt{3}}$	$\frac{1}{52} \sqrt{231 - \frac{241}{\sqrt{17}}}$
$\frac{\sqrt{\frac{67}{26}}}{2}$	Root[4 - 119 #1 ² + 884 #1 ⁴ &, 4]	$\frac{\sqrt{\frac{7}{39}}}{13}$	0	$\frac{1}{2\sqrt{6}}$	Root[4 - 119 #1 ² + 884 #1 ⁴ &, 4]
$\frac{\sqrt{\frac{12193}{7}}}{52}$	$\frac{1}{52} \sqrt{199 + \frac{73}{\sqrt{17}}}$	$\frac{\sqrt{\frac{59}{3}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{4\sqrt{3}}$	$\frac{1}{52} \sqrt{199 - \frac{73}{\sqrt{17}}}$
$\frac{\sqrt{\frac{762}{7}}}{13}$	Root[18 - 459 #1 ² + 2873 #1 ⁴ &, 4]	$\frac{3}{13}$	$\frac{1}{\sqrt{7}}$	0	Root[18 - 459 #1 ² + 2873
$\frac{\sqrt{1743}}{52}$	$\frac{1}{52} \sqrt{167 - \frac{95}{\sqrt{17}}}$	$\frac{\sqrt{\frac{107}{3}}}{13}$	0	$\frac{1}{4\sqrt{3}}$	$\frac{1}{52} \sqrt{167 + \frac{95}{\sqrt{17}}}$
$\frac{5\sqrt{\frac{61}{14}}}{13}$	$\frac{1}{13} \sqrt{\frac{23}{2} - \frac{3}{\sqrt{17}}}$	$\frac{5}{13}$	$\frac{1}{\sqrt{14}}$	0	$\frac{1}{13} \sqrt{\frac{23}{2} + \frac{3}{\sqrt{17}}}$
$\frac{\sqrt{109}}{13}$	Root[8 - 323 #1 ² + 2873 #1 ⁴ &, 3]	$\frac{\sqrt{41}}{13}$	0	0	Root[8 - 323 #1 ² + 2873
$\frac{\sqrt{\frac{865}{2}}}{26}$	Root[106 - 2635 #1 ² + 11492 #1 ⁴ &, 4]	$\frac{1}{13}$	0	$\frac{1}{2\sqrt{2}}$	Root[106 - 2635 #1 ² + 11492

$\frac{\sqrt{1731}}{52}$	$\frac{1}{52} \sqrt{295 + \frac{577}{\sqrt{17}}}$	$\frac{\sqrt{\frac{19}{3}}}{13}$	0	$\frac{\sqrt{\frac{5}{3}}}{4}$	$\frac{1}{52} \sqrt{295 - \frac{577}{\sqrt{17}}}$
$\frac{\sqrt{433}}{26}$	Root $[26 - 595 \#1^2 + 2873 \#1^4 \&, 4]$	$\frac{\sqrt{\frac{35}{3}}}{13}$	0	$\frac{1}{2 \sqrt{3}}$	Root $[26 - 595 \#1^2 + 2873$
$\frac{3 \sqrt{\frac{1347}{7}}}{52}$	$\frac{1}{52} \sqrt{297 + \frac{503}{\sqrt{17}}}$	$\frac{1}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{4}$	$\frac{1}{52} \sqrt{297 - \frac{503}{\sqrt{17}}}$
$\frac{\sqrt{1733}}{52}$	$\frac{1}{52} \sqrt{265 + \frac{335}{\sqrt{17}}}$	$\frac{\sqrt{17}}{13}$	0	$\frac{1}{4}$	$\frac{1}{52} \sqrt{265 - \frac{335}{\sqrt{17}}}$
$\frac{\sqrt{\frac{6065}{14}}}{26}$	Root $[223 - 4794 \#1^2 + 22984 \#1^4 \&, 4]$	$\frac{\sqrt{\frac{19}{3}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{2 \sqrt{6}}$	Root $[223 - 4794 \#1^2 + 2298$
$\frac{17 \sqrt{\frac{3}{2}}}{26}$	Root $[94 - 2125 \#1^2 + 11492 \#1^4 \&, 4]$	$\frac{\sqrt{\frac{67}{3}}}{13}$	0	$\frac{1}{2 \sqrt{6}}$	Root $[94 - 2125 \#1^2 + 1149$
$\frac{\sqrt{\frac{12137}{7}}}{52}$	$\frac{1}{52} \sqrt{267 + \frac{261}{\sqrt{17}}}$	$\frac{\sqrt{\frac{35}{3}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{4 \sqrt{3}}$	$\frac{1}{52} \sqrt{267 - \frac{261}{\sqrt{17}}}$
$\frac{\sqrt{\frac{1517}{14}}}{13}$	$\frac{1}{26} \sqrt{71 + \frac{77}{\sqrt{17}}}$	$\frac{1}{13}$	$\frac{1}{\sqrt{7}}$	0	$\frac{1}{26} \sqrt{71 - \frac{77}{\sqrt{17}}}$
$\frac{\sqrt{1735}}{52}$	$\frac{1}{52} \sqrt{235 + \frac{93}{\sqrt{17}}}$	$\frac{\sqrt{\frac{83}{3}}}{13}$	0	$\frac{1}{4 \sqrt{3}}$	$\frac{1}{52} \sqrt{235 - \frac{93}{\sqrt{17}}}$
$\frac{\sqrt{\frac{759}{7}}}{13}$	$\frac{1}{26} \sqrt{63 + \frac{35}{\sqrt{17}}}$	$\frac{\sqrt{17}}{13}$	$\frac{1}{\sqrt{14}}$	0	$\frac{1}{26} \sqrt{63 - \frac{35}{\sqrt{17}}}$
$\frac{\sqrt{\frac{217}{2}}}{13}$	$\frac{1}{26} \sqrt{55 - \frac{7}{\sqrt{17}}}$	$\frac{\sqrt{33}}{13}$	0	0	$\frac{1}{26} \sqrt{55 + \frac{7}{\sqrt{17}}}$
$\frac{\sqrt{431}}{26}$	$\frac{1}{26} \sqrt{87 + \frac{161}{\sqrt{17}}}$	$\frac{\sqrt{\frac{11}{3}}}{13}$	0	$\frac{1}{2 \sqrt{3}}$	$\frac{1}{26} \sqrt{87 - \frac{161}{\sqrt{17}}}$
$\frac{5 \sqrt{69}}{52}$	$\frac{1}{52} \sqrt{333 + \frac{523}{\sqrt{17}}}$	$\frac{3}{13}$	0	$\frac{1}{4}$	$\frac{1}{52} \sqrt{333 - \frac{523}{\sqrt{17}}}$
$\frac{\sqrt{\frac{863}{2}}}{26}$	$\frac{1}{26} \sqrt{\frac{3}{34} (901 + 67 \sqrt{17})}$	$\frac{\sqrt{\frac{43}{3}}}{13}$	0	$\frac{1}{2 \sqrt{6}}$	Root $[144 - 2703 \#1^2 + 1149$
$\frac{\sqrt{\frac{12081}{7}}}{52}$	$\frac{1}{52} \sqrt{335 + \frac{449}{\sqrt{17}}}$	$\frac{\sqrt{\frac{11}{3}}}{13}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{4 \sqrt{3}}$	$\frac{1}{52} \sqrt{335 - \frac{449}{\sqrt{17}}}$
$\frac{\sqrt{1727}}{52}$	$\frac{1}{52} \sqrt{303 + \frac{281}{\sqrt{17}}}$	$\frac{\sqrt{\frac{59}{3}}}{13}$	0	$\frac{1}{4 \sqrt{3}}$	$\frac{1}{52} \sqrt{303 - \frac{281}{\sqrt{17}}}$
$\frac{\sqrt{\frac{1511}{14}}}{13}$	$\frac{1}{13} \sqrt{20 + \frac{41}{2 \sqrt{17}}}$	$\frac{3}{13}$	$\frac{1}{\sqrt{14}}$	0	$\frac{1}{13} \sqrt{20 - \frac{41}{2 \sqrt{17}}}$
$\frac{6 \sqrt{3}}{13}$	$\frac{1}{13} \sqrt{18 + \frac{10}{\sqrt{17}}}$	$\frac{5}{13}$	0	0	$\frac{1}{13} \sqrt{18 - \frac{10}{\sqrt{17}}}$
$\frac{\sqrt{1717}}{52}$	$\frac{1}{52} \sqrt{401 + \frac{711}{\sqrt{17}}}$	$\frac{1}{13}$	0	$\frac{1}{4}$	$\frac{1}{52} \sqrt{401 - \frac{711}{\sqrt{17}}}$
$\frac{\sqrt{\frac{859}{2}}}{26}$	Root $[202 - 3281 \#1^2 + 11492 \#1^4 \&, 4]$	$\frac{\sqrt{\frac{19}{3}}}{13}$	0	$\frac{1}{2 \sqrt{6}}$	Root $[202 - 3281 \#1^2 + 1149$
$\frac{3 \sqrt{191}}{52}$	$\frac{1}{52} \sqrt{371 + \frac{469}{\sqrt{17}}}$	$\frac{\sqrt{\frac{35}{3}}}{13}$	0	$\frac{1}{4 \sqrt{3}}$	$\frac{1}{52} \sqrt{371 - \frac{469}{\sqrt{17}}}$
$\frac{4 \sqrt{\frac{47}{7}}}{13}$	$\frac{1}{26} \sqrt{97 + \frac{129}{\sqrt{17}}}$	$\frac{1}{13}$	$\frac{1}{\sqrt{14}}$	0	$\frac{1}{26} \sqrt{97 - \frac{129}{\sqrt{17}}}$
$\frac{\sqrt{\frac{215}{2}}}{13}$	$\frac{1}{26} \sqrt{89 + \frac{87}{\sqrt{17}}}$	$\frac{\sqrt{17}}{13}$	0	0	$\frac{1}{26} \sqrt{89 - \frac{87}{\sqrt{17}}}$
$\frac{\sqrt{1711}}{52}$	$\frac{1}{52} \sqrt{439 + \frac{657}{\sqrt{17}}}$	$\frac{\sqrt{\frac{11}{3}}}{13}$	0	$\frac{1}{4 \sqrt{3}}$	$\frac{1}{52} \sqrt{439 - \frac{657}{\sqrt{17}}}$
$\frac{\sqrt{107}}{13}$	Root $[64 - 901 \#1^2 + 2873 \#1^4 \&, 4]$	$\frac{3}{13}$	0	0	Root $[64 - 901 \#1^2 + 2873$
$\frac{\sqrt{\frac{213}{2}}}{13}$	$\frac{1}{13} \sqrt{172 - \frac{181}{\sqrt{17}}}$	$\frac{1}{13}$	0	0	$\frac{1}{13} \sqrt{172 - \frac{181}{\sqrt{17}}}$

$$\left(\frac{1}{13} \sqrt[26]{125 + \sqrt{17}} \right)^{13} \sqrt[26]{125 - \sqrt{17}} = \frac{1}{13}$$

Dimensions[angle8]

{106, 6}

orderedroots[minipoly[chi8]]

{-5, 10 - $\sqrt{17}$, 8, 9, 11, 10 + $\sqrt{17}$ }

chi8

$$(-11 + x)^3 (-9 + x)^{11} (-8 + x) (5 + x)^{32} (83 - 20x + x^2)$$

coeff[chi8, (x+5) (x-9) (x-11)] // FullSimplify

{-16 (-15 + $\sqrt{17}$), 39, 16 (15 + $\sqrt{17}$)}

**combinationangle[{ -16 (-15 + $\sqrt{17}$), 39, 16 (15 + $\sqrt{17}$) },
{5, 22}, {2, 3, 6}, angle8] // FullSimplify**

$$\left\{ \frac{1}{13} \sqrt{\frac{11}{17} (22579 + 64 \sqrt{1122})}, \frac{1}{13} (-32 \sqrt{2} + \sqrt{33}), \right. \\ \left. \frac{1}{13} \sqrt{\frac{11}{17} (22579 - 64 \sqrt{1122})}, \frac{1}{13} (-32 \sqrt{2} - \sqrt{33}) \right\}$$

$$\text{compatible} \left[\left\{ \frac{1}{13} \sqrt{\frac{11}{17} (22579 + 64 \sqrt{1122})}, \frac{1}{13} (-32 \sqrt{2} + \sqrt{33}), \right. \right. \\ \left. \left. \frac{1}{13} \sqrt{\frac{11}{17} (22579 - 64 \sqrt{1122})}, \frac{1}{13} (-32 \sqrt{2} - \sqrt{33}) \right\} \right]$$

0

$$\text{chi9} = (-11 + x)^3 (-9 + x)^{10} (-7 + x) (5 + x)^{32} (-852 + 285x - 30x^2 + x^3)$$

$$(-11 + x)^3 (-9 + x)^{10} (-7 + x) (5 + x)^{32} (-852 + 285x - 30x^2 + x^3)$$

list9 = {(-7 + x) (-39533 + 26097x - 6534x² + 782x³ - 45x⁴ + x⁵),
(-9 + x) (-30755 + 21273x - 5618x² + 710x³ - 43x⁴ + x⁵),
(-11 + x) (-9 + x) (-7 + x)² (57 - 18x + x²),
(-7 + x) (-39709 + 26113x - 6534x² + 782x³ - 45x⁴ + x⁵),
(-11 + x) (-7 + x) (3607 - 2046x + 408x² - 34x³ + x⁴),
(-11 + x) (-7 + x) (3623 - 2046x + 408x² - 34x³ + x⁴),
270467 - 220076x + 71603x² - 12000x³ + 1097x⁴ - 52x⁵ + x⁶,
(-9 + x) (-30059 + 21113x - 5610x² + 710x³ - 43x⁴ + x⁵),

$$\begin{aligned}
& (-7+x) (-38\,597 + 25\,921\,x - 6\,526\,x^2 + 782\,x^3 - 45\,x^4 + x^5), \\
& (-9+x) (-30\,027 + 21\,113\,x - 5\,610\,x^2 + 710\,x^3 - 43\,x^4 + x^5), \\
& (-9+x) (-7+x) (4285 - 2404\,x + 458\,x^2 - 36\,x^3 + x^4), \\
& 271\,763 - 220\,364\,x + 71\,619\,x^2 - 12\,000\,x^3 + 1097\,x^4 - 52\,x^5 + x^6, \\
& 271\,475 - 220\,332\,x + 71\,619\,x^2 - 12\,000\,x^3 + 1097\,x^4 - 52\,x^5 + x^6, \\
& (-9+x) (113 - 22\,x + x^2) (-267 + 135\,x - 21\,x^2 + x^3), \\
& (-7+x) (-38\,741 + 25\,937\,x - 6\,526\,x^2 + 782\,x^3 - 45\,x^4 + x^5), \\
& (-9+x) (-30\,139 + 21\,129\,x - 5\,610\,x^2 + 710\,x^3 - 43\,x^4 + x^5), \\
& (-11+x) (-9+x) (-7+x) (-391 + 183\,x - 25\,x^2 + x^3), \\
& (-7+x) (-38\,917 + 25\,953\,x - 6\,526\,x^2 + 782\,x^3 - 45\,x^4 + x^5), \\
& 272\,483 - 220\,588\,x + 71\,635\,x^2 - 12\,000\,x^3 + 1097\,x^4 - 52\,x^5 + x^6, \\
& (-11+x) (-9+x) (2753 - 1672\,x + 358\,x^2 - 32\,x^3 + x^4), \\
& (-11+x) (-7+x)^2 (-505 + 219\,x - 27\,x^2 + x^3), \\
& 273\,715 - 220\,876\,x + 71\,651\,x^2 - 12\,000\,x^3 + 1097\,x^4 - 52\,x^5 + x^6, \\
& (-11+x) (-7+x) (3551 - 2038\,x + 408\,x^2 - 34\,x^3 + x^4), \\
& (-11+x) (-7+x) (87 - 20\,x + x^2) (41 - 14\,x + x^2), (-9+x) (-7+x) \\
& (4165 - 2396\,x + 458\,x^2 - 36\,x^3 + x^4), (-9+x)^2 (3259 - 1966\,x + 404\,x^2 - 34\,x^3 + x^4), \\
& (-9+x) (-29\,299 + 20\,953\,x - 5\,602\,x^2 + 710\,x^3 - 43\,x^4 + x^5), (-9+x) (-7+x) \\
& (113 - 22\,x + x^2) (37 - 14\,x + x^2), (-9+x)^2 (3275 - 1966\,x + 404\,x^2 - 34\,x^3 + x^4), \\
& (-9+x) (-29\,443 + 20\,969\,x - 5\,602\,x^2 + 710\,x^3 - 43\,x^4 + x^5), \\
& (-7+x) (-37\,805 + 25\,761\,x - 6\,518\,x^2 + 782\,x^3 - 45\,x^4 + x^5), \\
& (-9+x) (-29\,411 + 20\,969\,x - 5\,602\,x^2 + 710\,x^3 - 43\,x^4 + x^5), \\
& (-9+x) (-7+x) (4197 - 2396\,x + 458\,x^2 - 36\,x^3 + x^4), \\
& (-9+x) (-29\,587 + 20\,985\,x - 5\,602\,x^2 + 710\,x^3 - 43\,x^4 + x^5), \\
& 265\,931 - 218\,420\,x + 71\,403\,x^2 - 11\,992\,x^3 + 1097\,x^4 - 52\,x^5 + x^6, \\
& (-9+x) (-29\,555 + 20\,985\,x - 5\,602\,x^2 + 710\,x^3 - 43\,x^4 + x^5), \\
& (-7+x) (-37\,949 + 25\,777\,x - 6\,518\,x^2 + 782\,x^3 - 45\,x^4 + x^5), \\
& (-9+x) (-29\,523 + 20\,985\,x - 5\,602\,x^2 + 710\,x^3 - 43\,x^4 + x^5), \\
& (-11+x) (-9+x) (-7+x) (-383 + 183\,x - 25\,x^2 + x^3), \\
& 267\,227 - 218\,708\,x + 71\,419\,x^2 - 11\,992\,x^3 + 1097\,x^4 - 52\,x^5 + x^6, \\
& (-9+x) (-29\,699 + 21\,001\,x - 5\,602\,x^2 + 710\,x^3 - 43\,x^4 + x^5), \\
& 266\,939 - 218\,676\,x + 71\,419\,x^2 - 11\,992\,x^3 + 1097\,x^4 - 52\,x^5 + x^6, \\
& (-11+x) (-9+x) (87 - 20\,x + x^2) (31 - 12\,x + x^2), \\
& (-11+x) (-7+x) (3463 - 2030\,x + 408\,x^2 - 34\,x^3 + x^4), \\
& 268\,171 - 218\,964\,x + 71\,435\,x^2 - 11\,992\,x^3 + 1097\,x^4 - 52\,x^5 + x^6, \\
& (-11+x) (-24\,385 + 17\,689\,x - 4\,886\,x^2 + 646\,x^3 - 41\,x^4 + x^5), (-11+x) (-7+x)^2 \\
& (-497 + 219\,x - 27\,x^2 + x^3), (-9+x)^2 (-7+x) (-453 + 215\,x - 27\,x^2 + x^3), \\
& (-9+x)^2 (3187 - 1958\,x + 404\,x^2 - 34\,x^3 + x^4), (-9+x) (-7+x) \\
& (4093 - 2388\,x + 458\,x^2 - 36\,x^3 + x^4), (-9+x)^2 (3203 - 1958\,x + 404\,x^2 - 34\,x^3 + x^4), \\
& (-9+x) (-28\,795 + 20\,825\,x - 5\,594\,x^2 + 710\,x^3 - 43\,x^4 + x^5), \\
& (-9+x) (-7+x) (4109 - 2388\,x + 458\,x^2 - 36\,x^3 + x^4), \\
& (-9+x) (-29\,003 + 20\,841\,x - 5\,594\,x^2 + 710\,x^3 - 43\,x^4 + x^5), \\
& (-9+x)^2 (87 - 20\,x + x^2) (37 - 14\,x + x^2),
\end{aligned}$$

$$\begin{aligned}
& 260\,387 - 216\,508x + 71\,187x^2 - 11\,984x^3 + 1097x^4 - 52x^5 + x^6, \\
& (-9+x) (-28\,939 + 20\,841x - 5594x^2 + 710x^3 - 43x^4 + x^5), \\
& (-7+x) (-37\,157 + 25\,617x - 6510x^2 + 782x^3 - 45x^4 + x^5), \\
& (-9+x) (-28\,907 + 20\,841x - 5594x^2 + 710x^3 - 43x^4 + x^5), \\
& (-11+x) (-9+x) (-7+x) (-375 + 183x - 25x^2 + x^3), \\
& (-9+x)^2 (3235 - 1958x + 404x^2 - 34x^3 + x^4), \\
& 261\,683 - 216\,796x + 71\,203x^2 - 11\,984x^3 + 1097x^4 - 52x^5 + x^6, \\
& (-9+x) (-29\,083 + 20\,857x - 5594x^2 + 710x^3 - 43x^4 + x^5), \\
& 261\,395 - 216\,764x + 71\,203x^2 - 11\,984x^3 + 1097x^4 - 52x^5 + x^6, \\
& (-11+x) (-9+x) (2641 - 1656x + 358x^2 - 32x^3 + x^4), \\
& (-11+x) (-7+x) (3391 - 2022x + 408x^2 - 34x^3 + x^4), \\
& 262\,979 - 217\,084x + 71\,219x^2 - 11\,984x^3 + 1097x^4 - 52x^5 + x^6, \\
& (-11+x) (-23\,881 + 17\,561x - 4878x^2 + 646x^3 - 41x^4 + x^5), \\
& (-11+x) (-7+x) (3407 - 2022x + 408x^2 - 34x^3 + x^4), \\
& (-11+x) (-23\,993 + 17\,577x - 4878x^2 + 646x^3 - 41x^4 + x^5), \\
& (-9+x)^2 (-7+x) (-445 + 215x - 27x^2 + x^3), \\
& (-9+x) (-28\,211 + 20\,681x - 5586x^2 + 710x^3 - 43x^4 + x^5), \\
& (-9+x)^2 (3131 - 1950x + 404x^2 - 34x^3 + x^4), \\
& (-9+x) (-7+x) (4021 - 2380x + 458x^2 - 36x^3 + x^4), \\
& (-9+x) (-28\,355 + 20\,697x - 5586x^2 + 710x^3 - 43x^4 + x^5), \\
& (-9+x)^2 (3147 - 1950x + 404x^2 - 34x^3 + x^4), \\
& (-7+x) (-36\,365 + 25\,457x - 6502x^2 + 782x^3 - 45x^4 + x^5), \\
& (-9+x) (-28\,291 + 20\,697x - 5586x^2 + 710x^3 - 43x^4 + x^5), \\
& (-11+x) (-9+x) (-7+x) (-367 + 183x - 25x^2 + x^3), \\
& (-9+x) (-28\,499 + 20\,713x - 5586x^2 + 710x^3 - 43x^4 + x^5), \\
& (-9+x)^2 (3163 - 1950x + 404x^2 - 34x^3 + x^4), \\
& 255\,851 - 214\,852x + 70\,987x^2 - 11\,976x^3 + 1097x^4 - 52x^5 + x^6, \\
& (-11+x) (-9+x) (2585 - 1648x + 358x^2 - 32x^3 + x^4), \\
& (-11+x) (-7+x) (3319 - 2014x + 408x^2 - 34x^3 + x^4), \\
& 257\,435 - 215\,172x + 71\,003x^2 - 11\,976x^3 + 1097x^4 - 52x^5 + x^6, \\
& (-11+x) (-9+x)^2 (-289 + 151x - 23x^2 + x^3), \\
& (-11+x) (-23\,377 + 17\,433x - 4870x^2 + 646x^3 - 41x^4 + x^5), \\
& (-9+x) (-27\,563 + 20\,537x - 5578x^2 + 710x^3 - 43x^4 + x^5), \\
& (-9+x)^2 (-7+x) (-437 + 215x - 27x^2 + x^3), \\
& (-9+x) (-27\,707 + 20\,553x - 5578x^2 + 710x^3 - 43x^4 + x^5), \\
& (-9+x)^2 (3075 - 1942x + 404x^2 - 34x^3 + x^4), \\
& (-11+x) (-9+x) (-7+x) (-359 + 183x - 25x^2 + x^3), \\
& (-9+x) (-27\,883 + 20\,569x - 5578x^2 + 710x^3 - 43x^4 + x^5), \\
& (-9+x) (-27\,851 + 20\,569x - 5578x^2 + 710x^3 - 43x^4 + x^5), \\
& (-11+x) (-9+x)^2 (-281 + 151x - 23x^2 + x^3), \\
& (-11+x) (-7+x) (3247 - 2006x + 408x^2 - 34x^3 + x^4), \\
& (-9+x) (-28\,027 + 20\,585x - 5578x^2 + 710x^3 - 43x^4 + x^5), \\
& (-11+x) (-9+x) (2545 - 1640x + 358x^2 - 32x^3 + x^4),
\end{aligned}$$

```

(-11 + x) (-22 873 + 17 305 x - 4862 x^2 + 646 x^3 - 41 x^4 + x^5),
(-9 + x) (-7 + x) (3845 - 2364 x + 458 x^2 - 36 x^3 + x^4),
(-9 + x) (-27 059 + 20 409 x - 5570 x^2 + 710 x^3 - 43 x^4 + x^5),
(-13 + x) (-11 + x) (-9 + x)^2 (-7 + x) (-3 + x),
(-13 + x) (-9 + x) (2095 - 1410 x + 320 x^2 - 30 x^3 + x^4),
(-11 + x) (-9 + x) (2473 - 1632 x + 358 x^2 - 32 x^3 + x^4),
(-11 + x) (-7 + x) (3175 - 1998 x + 408 x^2 - 34 x^3 + x^4),
(-11 + x) (-9 + x) (2489 - 1632 x + 358 x^2 - 32 x^3 + x^4),
(-11 + x) (-9 + x) (2505 - 1632 x + 358 x^2 - 32 x^3 + x^4),
(-9 + x) (-26 443 + 20 265 x - 5562 x^2 + 710 x^3 - 43 x^4 + x^5),
(-11 + x) (-9 + x) (-7 + x) (-343 + 183 x - 25 x^2 + x^3),
(-11 + x) (-9 + x) (2417 - 1624 x + 358 x^2 - 32 x^3 + x^4),
(-11 + x) (-9 + x) (-7 + x) (-335 + 183 x - 25 x^2 + x^3)};

```

```
Length[list9]
```

```
111
```

```
A9 = CoefficientList[list9, x];
```

```
A9 // MatrixForm
```

```

( 276 731 -222 212 71 835 -12 008 1097 -52 1 )
( 276 795 -222 212 71 835 -12 008 1097 -52 1 )
( 276 507 -222 180 71 835 -12 008 1097 -52 1 )
( 277 963 -222 500 71 851 -12 008 1097 -52 1 )
( 277 739 -222 468 71 851 -12 008 1097 -52 1 )
( 278 971 -222 756 71 867 -12 008 1097 -52 1 )
( 270 467 -220 076 71 603 -12 000 1097 -52 1 )
( 270 531 -220 076 71 603 -12 000 1097 -52 1 )
( 270 179 -220 044 71 603 -12 000 1097 -52 1 )
( 270 243 -220 044 71 603 -12 000 1097 -52 1 )
( 269 955 -220 012 71 603 -12 000 1097 -52 1 )
( 271 763 -220 364 71 619 -12 000 1097 -52 1 )
( 271 475 -220 332 71 619 -12 000 1097 -52 1 )
( 271 539 -220 332 71 619 -12 000 1097 -52 1 )
( 271 187 -220 300 71 619 -12 000 1097 -52 1 )
( 271 251 -220 300 71 619 -12 000 1097 -52 1 )
( 270 963 -220 268 71 619 -12 000 1097 -52 1 )
( 272 419 -220 588 71 635 -12 000 1097 -52 1 )
( 272 483 -220 588 71 635 -12 000 1097 -52 1 )
( 272 547 -220 588 71 635 -12 000 1097 -52 1 )
( 272 195 -220 556 71 635 -12 000 1097 -52 1 )
( 273 715 -220 876 71 651 -12 000 1097 -52 1 )
( 273 427 -220 844 71 651 -12 000 1097 -52 1 )
( 274 659 -221 132 71 667 -12 000 1097 -52 1 )
( 262 395 -217 588 71 355 -11 992 1097 -52 1 )
( 263 979 -217 908 71 371 -11 992 1097 -52 1 )
( 263 691 -217 876 71 371 -11 992 1097 -52 1 )
( 263 403 -217 844 71 371 -11 992 1097 -52 1 )
( 265 275 -218 196 71 387 -11 992 1097 -52 1 )
( 264 987 -218 164 71 387 -11 992 1097 -52 1 )
( 264 635 -218 132 71 387 -11 992 1097 -52 1 )
( 264 600 -218 122 71 387 -11 992 1097 -52 1 )

```

204 099	-218 132	71 387	-11 992	1097	-52	1
264 411	-218 100	71 387	-11 992	1097	-52	1
266 283	-218 452	71 403	-11 992	1097	-52	1
265 931	-218 420	71 403	-11 992	1097	-52	1
265 995	-218 420	71 403	-11 992	1097	-52	1
265 643	-218 388	71 403	-11 992	1097	-52	1
265 707	-218 388	71 403	-11 992	1097	-52	1
265 419	-218 356	71 403	-11 992	1097	-52	1
267 227	-218 708	71 419	-11 992	1097	-52	1
267 291	-218 708	71 419	-11 992	1097	-52	1
266 939	-218 676	71 419	-11 992	1097	-52	1
267 003	-218 676	71 419	-11 992	1097	-52	1
266 651	-218 644	71 419	-11 992	1097	-52	1
268 171	-218 964	71 435	-11 992	1097	-52	1
268 235	-218 964	71 435	-11 992	1097	-52	1
267 883	-218 932	71 435	-11 992	1097	-52	1
256 851	-215 676	71 139	-11 984	1097	-52	1
258 147	-215 964	71 155	-11 984	1097	-52	1
257 859	-215 932	71 155	-11 984	1097	-52	1
259 443	-216 252	71 171	-11 984	1097	-52	1
259 155	-216 220	71 171	-11 984	1097	-52	1
258 867	-216 188	71 171	-11 984	1097	-52	1
261 027	-216 572	71 187	-11 984	1097	-52	1
260 739	-216 540	71 187	-11 984	1097	-52	1
260 387	-216 508	71 187	-11 984	1097	-52	1
260 451	-216 508	71 187	-11 984	1097	-52	1
260 099	-216 476	71 187	-11 984	1097	-52	1
260 163	-216 476	71 187	-11 984	1097	-52	1
259 875	-216 444	71 187	-11 984	1097	-52	1
262 035	-216 828	71 203	-11 984	1097	-52	1
261 683	-216 796	71 203	-11 984	1097	-52	1
261 747	-216 796	71 203	-11 984	1097	-52	1
261 395	-216 764	71 203	-11 984	1097	-52	1
261 459	-216 764	71 203	-11 984	1097	-52	1
261 107	-216 732	71 203	-11 984	1097	-52	1
262 979	-217 084	71 219	-11 984	1097	-52	1
262 691	-217 052	71 219	-11 984	1097	-52	1
262 339	-217 020	71 219	-11 984	1097	-52	1
263 923	-217 340	71 235	-11 984	1097	-52	1
252 315	-214 020	70 939	-11 976	1097	-52	1
253 899	-214 340	70 955	-11 976	1097	-52	1
253 611	-214 308	70 955	-11 976	1097	-52	1
253 323	-214 276	70 955	-11 976	1097	-52	1
255 195	-214 628	70 971	-11 976	1097	-52	1
254 907	-214 596	70 971	-11 976	1097	-52	1
254 555	-214 564	70 971	-11 976	1097	-52	1
254 619	-214 564	70 971	-11 976	1097	-52	1
254 331	-214 532	70 971	-11 976	1097	-52	1
256 491	-214 916	70 987	-11 976	1097	-52	1
256 203	-214 884	70 987	-11 976	1097	-52	1
255 851	-214 852	70 987	-11 976	1097	-52	1
255 915	-214 852	70 987	-11 976	1097	-52	1
255 563	-214 820	70 987	-11 976	1097	-52	1
257 435	-215 172	71 003	-11 976	1097	-52	1
257 499	-215 172	71 003	-11 976	1097	-52	1

257 147	-215 140	71 003	-11 976	1097	-52	1
248 067	-212 396	70 739	-11 968	1097	-52	1
247 779	-212 364	70 739	-11 968	1097	-52	1
249 363	-212 684	70 755	-11 968	1097	-52	1
249 075	-212 652	70 755	-11 968	1097	-52	1
248 787	-212 620	70 755	-11 968	1097	-52	1
250 947	-213 004	70 771	-11 968	1097	-52	1
250 659	-212 972	70 771	-11 968	1097	-52	1
250 371	-212 940	70 771	-11 968	1097	-52	1
250 019	-212 908	70 771	-11 968	1097	-52	1
252 243	-213 292	70 787	-11 968	1097	-52	1
251 955	-213 260	70 787	-11 968	1097	-52	1
251 603	-213 228	70 787	-11 968	1097	-52	1
242 235	-210 452	70 523	-11 960	1097	-52	1
243 531	-210 740	70 539	-11 960	1097	-52	1
243 243	-210 708	70 539	-11 960	1097	-52	1
245 115	-211 060	70 555	-11 960	1097	-52	1
244 827	-211 028	70 555	-11 960	1097	-52	1
244 475	-210 996	70 555	-11 960	1097	-52	1
246 411	-211 348	70 571	-11 960	1097	-52	1
247 995	-211 668	70 587	-11 960	1097	-52	1
237 987	-208 828	70 323	-11 952	1097	-52	1
237 699	-208 796	70 323	-11 952	1097	-52	1
239 283	-209 116	70 339	-11 952	1097	-52	1
232 155	-206 884	70 107	-11 944	1097	-52	1

Dimensions[A9]

{111, 7}

gpart[chi9]

{13 399 347, -10 822 572, 3 511 299, -588 032, 53 753, -2548, 49}

```

FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 && n[20] ≥ 0 &&
  n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 && n[26] ≥ 0 &&
  n[27] ≥ 0 && n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 &&
  n[33] ≥ 0 && n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 &&
  n[39] ≥ 0 && n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 &&
  n[45] ≥ 0 && n[46] ≥ 0 && n[47] ≥ 0 && n[48] ≥ 0 && n[49] ≥ 0 && n[50] ≥ 0 &&
  n[51] ≥ 0 && n[52] ≥ 0 && n[53] ≥ 0 && n[54] ≥ 0 && n[55] ≥ 0 && n[56] ≥ 0 &&
  n[57] ≥ 0 && n[58] ≥ 0 && n[59] ≥ 0 && n[60] ≥ 0 && n[61] ≥ 0 && n[62] ≥ 0 &&
  n[63] ≥ 0 && n[64] ≥ 0 && n[65] ≥ 0 && n[66] ≥ 0 && n[67] ≥ 0 && n[68] ≥ 0 &&
  n[69] ≥ 0 && n[70] ≥ 0 && n[71] ≥ 0 && n[72] ≥ 0 && n[73] ≥ 0 && n[74] ≥ 0 &&
  n[75] ≥ 0 && n[76] ≥ 0 && n[77] ≥ 0 && n[78] ≥ 0 && n[79] ≥ 0 && n[80] ≥ 0 &&
  n[81] ≥ 0 && n[82] ≥ 0 && n[83] ≥ 0 && n[84] ≥ 0 && n[85] ≥ 0 && n[86] ≥ 0 &&
  n[87] ≥ 0 && n[88] ≥ 0 && n[89] ≥ 0 && n[90] ≥ 0 && n[91] ≥ 0 && n[92] ≥ 0 &&
  n[93] ≥ 0 && n[94] ≥ 0 && n[95] ≥ 0 && n[96] ≥ 0 && n[97] ≥ 0 && n[98] ≥ 0 &&
  n[99] ≥ 0 && n[100] ≥ 0 && n[101] ≥ 0 && n[102] ≥ 0 && n[103] ≥ 0 && n[104] ≥ 0 &&
  n[105] ≥ 0 && n[106] ≥ 0 && n[107] ≥ 0 && n[108] ≥ 0 && n[109] ≥ 0 && n[110] ≥ 0 &&
  n[111] ≥ 0 && Array[n, 111].A9 == gpart[chi9], Array[n, 111], Integers]
{ {n[1] → 0, n[2] → 0, n[3] → 0, n[4] → 5, n[5] → 0, n[6] → 0, n[7] → 13, n[8] → 0,
  n[9] → 0, n[10] → 0, n[11] → 0, n[12] → 5, n[13] → 0, n[14] → 0, n[15] → 0,
  n[16] → 0, n[17] → 0, n[18] → 0, n[19] → 0, n[20] → 0, n[21] → 0, n[22] → 0,
  n[23] → 0, n[24] → 25, n[25] → 0, n[26] → 0, n[27] → 0, n[28] → 0, n[29] → 0,
  n[30] → 0, n[31] → 0, n[32] → 0, n[33] → 0, n[34] → 0, n[35] → 0, n[36] → 0,
  n[37] → 0, n[38] → 0, n[39] → 0, n[40] → 0, n[41] → 0, n[42] → 0, n[43] → 0,
  n[44] → 0, n[45] → 1, n[46] → 0, n[47] → 0, n[48] → 0, n[49] → 0, n[50] → 0,
  n[51] → 0, n[52] → 0, n[53] → 0, n[54] → 0, n[55] → 0, n[56] → 0, n[57] → 0,
  n[58] → 0, n[59] → 0, n[60] → 0, n[61] → 0, n[62] → 0, n[63] → 0, n[64] → 0,
  n[65] → 0, n[66] → 0, n[67] → 0, n[68] → 0, n[69] → 0, n[70] → 0, n[71] → 0,
  n[72] → 0, n[73] → 0, n[74] → 0, n[75] → 0, n[76] → 0, n[77] → 0, n[78] → 0,
  n[79] → 0, n[80] → 0, n[81] → 0, n[82] → 0, n[83] → 0, n[84] → 0, n[85] → 0,
  n[86] → 0, n[87] → 0, n[88] → 0, n[89] → 0, n[90] → 0, n[91] → 0, n[92] → 0,
  n[93] → 0, n[94] → 0, n[95] → 0, n[96] → 0, n[97] → 0, n[98] → 0, n[99] → 0,
  n[100] → 0, n[101] → 0, n[102] → 0, n[103] → 0, n[104] → 0, n[105] → 0,
  n[106] → 0, n[107] → 0, n[108] → 0, n[109] → 0, n[110] → 0, n[111] → 0} }

```

```

Array[n, 111] /. {n[1] → 0, n[2] → 0, n[3] → 0, n[4] → 5, n[5] → 0, n[6] → 0, n[7] → 13,
  n[8] → 0, n[9] → 0, n[10] → 0, n[11] → 0, n[12] → 5, n[13] → 0, n[14] → 0,
  n[15] → 0, n[16] → 0, n[17] → 0, n[18] → 0, n[19] → 0, n[20] → 0, n[21] → 0,
  n[22] → 0, n[23] → 0, n[24] → 25, n[25] → 0, n[26] → 0, n[27] → 0, n[28] → 0,
  n[29] → 0, n[30] → 0, n[31] → 0, n[32] → 0, n[33] → 0, n[34] → 0, n[35] → 0,
  n[36] → 0, n[37] → 0, n[38] → 0, n[39] → 0, n[40] → 0, n[41] → 0, n[42] → 0,
  n[43] → 0, n[44] → 0, n[45] → 1, n[46] → 0, n[47] → 0, n[48] → 0, n[49] → 0,
  n[50] → 0, n[51] → 0, n[52] → 0, n[53] → 0, n[54] → 0, n[55] → 0, n[56] → 0,
  n[57] → 0, n[58] → 0, n[59] → 0, n[60] → 0, n[61] → 0, n[62] → 0, n[63] → 0,
  n[64] → 0, n[65] → 0, n[66] → 0, n[67] → 0, n[68] → 0, n[69] → 0, n[70] → 0,
  n[71] → 0, n[72] → 0, n[73] → 0, n[74] → 0, n[75] → 0, n[76] → 0, n[77] → 0,
  n[78] → 0, n[79] → 0, n[80] → 0, n[81] → 0, n[82] → 0, n[83] → 0, n[84] → 0,
  n[85] → 0, n[86] → 0, n[87] → 0, n[88] → 0, n[89] → 0, n[90] → 0, n[91] → 0,
  n[92] → 0, n[93] → 0, n[94] → 0, n[95] → 0, n[96] → 0, n[97] → 0, n[98] → 0,
  n[99] → 0, n[100] → 0, n[101] → 0, n[102] → 0, n[103] → 0, n[104] → 0, n[105] → 0,
  n[106] → 0, n[107] → 0, n[108] → 0, n[109] → 0, n[110] → 0, n[111] → 0}

{0, 0, 0, 5, 0, 0, 13, 0, 0, 0, 0, 5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 25, 0, 0, 0, 0,
  0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
  0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
  0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0}

```

4, 7, 12, 24, 45

```

FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] == 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 && n[20] ≥ 0 &&
  n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 && n[26] ≥ 0 &&
  n[27] ≥ 0 && n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 &&
  n[33] ≥ 0 && n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 &&
  n[39] ≥ 0 && n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 &&
  n[45] ≥ 0 && n[46] ≥ 0 && n[47] ≥ 0 && n[48] ≥ 0 && n[49] ≥ 0 && n[50] ≥ 0 &&
  n[51] ≥ 0 && n[52] ≥ 0 && n[53] ≥ 0 && n[54] ≥ 0 && n[55] ≥ 0 && n[56] ≥ 0 &&
  n[57] ≥ 0 && n[58] ≥ 0 && n[59] ≥ 0 && n[60] ≥ 0 && n[61] ≥ 0 && n[62] ≥ 0 &&
  n[63] ≥ 0 && n[64] ≥ 0 && n[65] ≥ 0 && n[66] ≥ 0 && n[67] ≥ 0 && n[68] ≥ 0 &&
  n[69] ≥ 0 && n[70] ≥ 0 && n[71] ≥ 0 && n[72] ≥ 0 && n[73] ≥ 0 && n[74] ≥ 0 &&
  n[75] ≥ 0 && n[76] ≥ 0 && n[77] ≥ 0 && n[78] ≥ 0 && n[79] ≥ 0 && n[80] ≥ 0 &&
  n[81] ≥ 0 && n[82] ≥ 0 && n[83] ≥ 0 && n[84] ≥ 0 && n[85] ≥ 0 && n[86] ≥ 0 &&
  n[87] ≥ 0 && n[88] ≥ 0 && n[89] ≥ 0 && n[90] ≥ 0 && n[91] ≥ 0 && n[92] ≥ 0 &&
  n[93] ≥ 0 && n[94] ≥ 0 && n[95] ≥ 0 && n[96] ≥ 0 && n[97] ≥ 0 && n[98] ≥ 0 &&
  n[99] ≥ 0 && n[100] ≥ 0 && n[101] ≥ 0 && n[102] ≥ 0 && n[103] ≥ 0 && n[104] ≥ 0 &&
  n[105] ≥ 0 && n[106] ≥ 0 && n[107] ≥ 0 && n[108] ≥ 0 && n[109] ≥ 0 && n[110] ≥ 0 &&
  n[111] ≥ 0 && Array[n, 111].A9 == gpart[chi9], Array[n, 111], Integers]

{}

```



```

FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 && n[20] ≥ 0 &&
  n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] == 0 && n[25] ≥ 0 && n[26] ≥ 0 &&
  n[27] ≥ 0 && n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 &&
  n[33] ≥ 0 && n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 &&
  n[39] ≥ 0 && n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 &&
  n[45] ≥ 0 && n[46] ≥ 0 && n[47] ≥ 0 && n[48] ≥ 0 && n[49] ≥ 0 && n[50] ≥ 0 &&
  n[51] ≥ 0 && n[52] ≥ 0 && n[53] ≥ 0 && n[54] ≥ 0 && n[55] ≥ 0 && n[56] ≥ 0 &&
  n[57] ≥ 0 && n[58] ≥ 0 && n[59] ≥ 0 && n[60] ≥ 0 && n[61] ≥ 0 && n[62] ≥ 0 &&
  n[63] ≥ 0 && n[64] ≥ 0 && n[65] ≥ 0 && n[66] ≥ 0 && n[67] ≥ 0 && n[68] ≥ 0 &&
  n[69] ≥ 0 && n[70] ≥ 0 && n[71] ≥ 0 && n[72] ≥ 0 && n[73] ≥ 0 && n[74] ≥ 0 &&
  n[75] ≥ 0 && n[76] ≥ 0 && n[77] ≥ 0 && n[78] ≥ 0 && n[79] ≥ 0 && n[80] ≥ 0 &&
  n[81] ≥ 0 && n[82] ≥ 0 && n[83] ≥ 0 && n[84] ≥ 0 && n[85] ≥ 0 && n[86] ≥ 0 &&
  n[87] ≥ 0 && n[88] ≥ 0 && n[89] ≥ 0 && n[90] ≥ 0 && n[91] ≥ 0 && n[92] ≥ 0 &&
  n[93] ≥ 0 && n[94] ≥ 0 && n[95] ≥ 0 && n[96] ≥ 0 && n[97] ≥ 0 && n[98] ≥ 0 &&
  n[99] ≥ 0 && n[100] ≥ 0 && n[101] ≥ 0 && n[102] ≥ 0 && n[103] ≥ 0 && n[104] ≥ 0 &&
  n[105] ≥ 0 && n[106] ≥ 0 && n[107] ≥ 0 && n[108] ≥ 0 && n[109] ≥ 0 && n[110] ≥ 0 &&
  n[111] ≥ 0 && Array[n, 111].A9 == gpart[chi9], Array[n, 111], Integers]
{}

```

```
FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 && n[20] ≥ 0 &&
  n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 && n[26] ≥ 0 &&
  n[27] ≥ 0 && n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 &&
  n[33] ≥ 0 && n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 &&
  n[39] ≥ 0 && n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 &&
  n[45] == 0 && n[46] ≥ 0 && n[47] ≥ 0 && n[48] ≥ 0 && n[49] ≥ 0 && n[50] ≥ 0 &&
  n[51] ≥ 0 && n[52] ≥ 0 && n[53] ≥ 0 && n[54] ≥ 0 && n[55] ≥ 0 && n[56] ≥ 0 &&
  n[57] ≥ 0 && n[58] ≥ 0 && n[59] ≥ 0 && n[60] ≥ 0 && n[61] ≥ 0 && n[62] ≥ 0 &&
  n[63] ≥ 0 && n[64] ≥ 0 && n[65] ≥ 0 && n[66] ≥ 0 && n[67] ≥ 0 && n[68] ≥ 0 &&
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  n[75] ≥ 0 && n[76] ≥ 0 && n[77] ≥ 0 && n[78] ≥ 0 && n[79] ≥ 0 && n[80] ≥ 0 &&
  n[81] ≥ 0 && n[82] ≥ 0 && n[83] ≥ 0 && n[84] ≥ 0 && n[85] ≥ 0 && n[86] ≥ 0 &&
  n[87] ≥ 0 && n[88] ≥ 0 && n[89] ≥ 0 && n[90] ≥ 0 && n[91] ≥ 0 && n[92] ≥ 0 &&
  n[93] ≥ 0 && n[94] ≥ 0 && n[95] ≥ 0 && n[96] ≥ 0 && n[97] ≥ 0 && n[98] ≥ 0 &&
  n[99] ≥ 0 && n[100] ≥ 0 && n[101] ≥ 0 && n[102] ≥ 0 && n[103] ≥ 0 && n[104] ≥ 0 &&
  n[105] ≥ 0 && n[106] ≥ 0 && n[107] ≥ 0 && n[108] ≥ 0 && n[109] ≥ 0 && n[110] ≥ 0 &&
  n[111] ≥ 0 && Array[n, 111].A9 == gpart[chi9], Array[n, 111], Integers]
```

```
{ {n[1] → 0, n[2] → 0, n[3] → 0, n[4] → 4, n[5] → 0, n[6] → 0, n[7] → 14, n[8] → 0,
  n[9] → 0, n[10] → 0, n[11] → 0, n[12] → 4, n[13] → 0, n[14] → 0, n[15] → 0,
  n[16] → 0, n[17] → 0, n[18] → 0, n[19] → 0, n[20] → 0, n[21] → 0, n[22] → 2,
  n[23] → 0, n[24] → 25, n[25] → 0, n[26] → 0, n[27] → 0, n[28] → 0, n[29] → 0,
  n[30] → 0, n[31] → 0, n[32] → 0, n[33] → 0, n[34] → 0, n[35] → 0, n[36] → 0,
  n[37] → 0, n[38] → 0, n[39] → 0, n[40] → 0, n[41] → 0, n[42] → 0, n[43] → 0,
  n[44] → 0, n[45] → 0, n[46] → 0, n[47] → 0, n[48] → 0, n[49] → 0, n[50] → 0,
  n[51] → 0, n[52] → 0, n[53] → 0, n[54] → 0, n[55] → 0, n[56] → 0, n[57] → 0,
  n[58] → 0, n[59] → 0, n[60] → 0, n[61] → 0, n[62] → 0, n[63] → 0, n[64] → 0,
  n[65] → 0, n[66] → 0, n[67] → 0, n[68] → 0, n[69] → 0, n[70] → 0, n[71] → 0,
  n[72] → 0, n[73] → 0, n[74] → 0, n[75] → 0, n[76] → 0, n[77] → 0, n[78] → 0,
  n[79] → 0, n[80] → 0, n[81] → 0, n[82] → 0, n[83] → 0, n[84] → 0, n[85] → 0,
  n[86] → 0, n[87] → 0, n[88] → 0, n[89] → 0, n[90] → 0, n[91] → 0, n[92] → 0,
  n[93] → 0, n[94] → 0, n[95] → 0, n[96] → 0, n[97] → 0, n[98] → 0, n[99] → 0,
  n[100] → 0, n[101] → 0, n[102] → 0, n[103] → 0, n[104] → 0, n[105] → 0,
  n[106] → 0, n[107] → 0, n[108] → 0, n[109] → 0, n[110] → 0, n[111] → 0} }
```

```
list9[{{4, 7, 12, 24}}] * mu[chi9] // Factor
```

```
{ (-11 + x)2 (-9 + x)9 (-7 + x) (5 + x)31 (-39 709 + 26 113 x - 6534 x2 + 782 x3 - 45 x4 + x5),
  (-11 + x)2 (-9 + x)9 (5 + x)31
  (270 467 - 220 076 x + 71 603 x2 - 12 000 x3 + 1097 x4 - 52 x5 + x6), (-11 + x)2
  (-9 + x)9 (5 + x)31 (271 763 - 220 364 x + 71 619 x2 - 12 000 x3 + 1097 x4 - 52 x5 + x6),
  (-11 + x)3 (-9 + x)9 (-7 + x) (5 + x)31 (87 - 20 x + x2) (41 - 14 x + x2) }
```

```
Array[m, 7].Transpose[A9]
```

```
{ 276 731 m[1] - 222 212 m[2] + 71 835 m[3] - 12 008 m[4] + 1097 m[5] - 52 m[6] + m[7],
  276 795 m[1] - 222 212 m[2] + 71 835 m[3] - 12 008 m[4] + 1097 m[5] - 52 m[6] + m[7],
```

276 507 m[1] - 222 180 m[2] + 71 835 m[3] - 12 008 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 277 963 m[1] - 222 500 m[2] + 71 851 m[3] - 12 008 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 277 739 m[1] - 222 468 m[2] + 71 851 m[3] - 12 008 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 278 971 m[1] - 222 756 m[2] + 71 867 m[3] - 12 008 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 270 467 m[1] - 220 076 m[2] + 71 603 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 270 531 m[1] - 220 076 m[2] + 71 603 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 270 179 m[1] - 220 044 m[2] + 71 603 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 270 243 m[1] - 220 044 m[2] + 71 603 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 269 955 m[1] - 220 012 m[2] + 71 603 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 271 763 m[1] - 220 364 m[2] + 71 619 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 271 475 m[1] - 220 332 m[2] + 71 619 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 271 539 m[1] - 220 332 m[2] + 71 619 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 271 187 m[1] - 220 300 m[2] + 71 619 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 271 251 m[1] - 220 300 m[2] + 71 619 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 270 963 m[1] - 220 268 m[2] + 71 619 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 272 419 m[1] - 220 588 m[2] + 71 635 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 272 483 m[1] - 220 588 m[2] + 71 635 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 272 547 m[1] - 220 588 m[2] + 71 635 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 272 195 m[1] - 220 556 m[2] + 71 635 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 273 715 m[1] - 220 876 m[2] + 71 651 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 273 427 m[1] - 220 844 m[2] + 71 651 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 274 659 m[1] - 221 132 m[2] + 71 667 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 262 395 m[1] - 217 588 m[2] + 71 355 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 263 979 m[1] - 217 908 m[2] + 71 371 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 263 691 m[1] - 217 876 m[2] + 71 371 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 263 403 m[1] - 217 844 m[2] + 71 371 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 265 275 m[1] - 218 196 m[2] + 71 387 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 264 987 m[1] - 218 164 m[2] + 71 387 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 264 635 m[1] - 218 132 m[2] + 71 387 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 264 699 m[1] - 218 132 m[2] + 71 387 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 264 411 m[1] - 218 100 m[2] + 71 387 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 266 283 m[1] - 218 452 m[2] + 71 403 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 265 931 m[1] - 218 420 m[2] + 71 403 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 265 995 m[1] - 218 420 m[2] + 71 403 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 265 643 m[1] - 218 388 m[2] + 71 403 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 265 707 m[1] - 218 388 m[2] + 71 403 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 265 419 m[1] - 218 356 m[2] + 71 403 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 267 227 m[1] - 218 708 m[2] + 71 419 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 267 291 m[1] - 218 708 m[2] + 71 419 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 266 939 m[1] - 218 676 m[2] + 71 419 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 267 003 m[1] - 218 676 m[2] + 71 419 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 266 651 m[1] - 218 644 m[2] + 71 419 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 268 171 m[1] - 218 964 m[2] + 71 435 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 268 235 m[1] - 218 964 m[2] + 71 435 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 267 883 m[1] - 218 932 m[2] + 71 435 m[3] - 11 992 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 256 851 m[1] - 215 676 m[2] + 71 139 m[3] - 11 984 m[4] + 1097 m[5] - 52 m[6] + m[7] ,
 258 147 m[1] - 215 964 m[2] + 71 155 m[3] - 11 984 m[4] + 1097 m[5] - 52 m[6] + m[7] ,

$257\,859\,m[1] - 215\,932\,m[2] + 71\,155\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $259\,443\,m[1] - 216\,252\,m[2] + 71\,171\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $259\,155\,m[1] - 216\,220\,m[2] + 71\,171\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $258\,867\,m[1] - 216\,188\,m[2] + 71\,171\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $261\,027\,m[1] - 216\,572\,m[2] + 71\,187\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $260\,739\,m[1] - 216\,540\,m[2] + 71\,187\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $260\,387\,m[1] - 216\,508\,m[2] + 71\,187\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $260\,451\,m[1] - 216\,508\,m[2] + 71\,187\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $260\,099\,m[1] - 216\,476\,m[2] + 71\,187\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $260\,163\,m[1] - 216\,476\,m[2] + 71\,187\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $259\,875\,m[1] - 216\,444\,m[2] + 71\,187\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $262\,035\,m[1] - 216\,828\,m[2] + 71\,203\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $261\,683\,m[1] - 216\,796\,m[2] + 71\,203\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $261\,747\,m[1] - 216\,796\,m[2] + 71\,203\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $261\,395\,m[1] - 216\,764\,m[2] + 71\,203\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $261\,459\,m[1] - 216\,764\,m[2] + 71\,203\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $261\,107\,m[1] - 216\,732\,m[2] + 71\,203\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $262\,979\,m[1] - 217\,084\,m[2] + 71\,219\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $262\,691\,m[1] - 217\,052\,m[2] + 71\,219\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $262\,339\,m[1] - 217\,020\,m[2] + 71\,219\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $263\,923\,m[1] - 217\,340\,m[2] + 71\,235\,m[3] - 11\,984\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $252\,315\,m[1] - 214\,020\,m[2] + 70\,939\,m[3] - 11\,976\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $253\,899\,m[1] - 214\,340\,m[2] + 70\,955\,m[3] - 11\,976\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $253\,611\,m[1] - 214\,308\,m[2] + 70\,955\,m[3] - 11\,976\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $253\,323\,m[1] - 214\,276\,m[2] + 70\,955\,m[3] - 11\,976\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $255\,195\,m[1] - 214\,628\,m[2] + 70\,971\,m[3] - 11\,976\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $254\,907\,m[1] - 214\,596\,m[2] + 70\,971\,m[3] - 11\,976\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $254\,555\,m[1] - 214\,564\,m[2] + 70\,971\,m[3] - 11\,976\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $254\,619\,m[1] - 214\,564\,m[2] + 70\,971\,m[3] - 11\,976\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $254\,331\,m[1] - 214\,532\,m[2] + 70\,971\,m[3] - 11\,976\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $256\,491\,m[1] - 214\,916\,m[2] + 70\,987\,m[3] - 11\,976\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $256\,203\,m[1] - 214\,884\,m[2] + 70\,987\,m[3] - 11\,976\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $255\,851\,m[1] - 214\,852\,m[2] + 70\,987\,m[3] - 11\,976\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $255\,915\,m[1] - 214\,852\,m[2] + 70\,987\,m[3] - 11\,976\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $255\,563\,m[1] - 214\,820\,m[2] + 70\,987\,m[3] - 11\,976\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $257\,435\,m[1] - 215\,172\,m[2] + 71\,003\,m[3] - 11\,976\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $257\,499\,m[1] - 215\,172\,m[2] + 71\,003\,m[3] - 11\,976\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $257\,147\,m[1] - 215\,140\,m[2] + 71\,003\,m[3] - 11\,976\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $248\,067\,m[1] - 212\,396\,m[2] + 70\,739\,m[3] - 11\,968\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $247\,779\,m[1] - 212\,364\,m[2] + 70\,739\,m[3] - 11\,968\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $249\,363\,m[1] - 212\,684\,m[2] + 70\,755\,m[3] - 11\,968\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $249\,075\,m[1] - 212\,652\,m[2] + 70\,755\,m[3] - 11\,968\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $248\,787\,m[1] - 212\,620\,m[2] + 70\,755\,m[3] - 11\,968\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $250\,947\,m[1] - 213\,004\,m[2] + 70\,771\,m[3] - 11\,968\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $250\,659\,m[1] - 212\,972\,m[2] + 70\,771\,m[3] - 11\,968\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $250\,371\,m[1] - 212\,940\,m[2] + 70\,771\,m[3] - 11\,968\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $250\,019\,m[1] - 212\,908\,m[2] + 70\,771\,m[3] - 11\,968\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$

$252\,243\,m[1] - 213\,292\,m[2] + 70\,787\,m[3] - 11\,968\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $251\,955\,m[1] - 213\,260\,m[2] + 70\,787\,m[3] - 11\,968\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $251\,603\,m[1] - 213\,228\,m[2] + 70\,787\,m[3] - 11\,968\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $242\,235\,m[1] - 210\,452\,m[2] + 70\,523\,m[3] - 11\,960\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $243\,531\,m[1] - 210\,740\,m[2] + 70\,539\,m[3] - 11\,960\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $243\,243\,m[1] - 210\,708\,m[2] + 70\,539\,m[3] - 11\,960\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $245\,115\,m[1] - 211\,060\,m[2] + 70\,555\,m[3] - 11\,960\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $244\,827\,m[1] - 211\,028\,m[2] + 70\,555\,m[3] - 11\,960\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $244\,475\,m[1] - 210\,996\,m[2] + 70\,555\,m[3] - 11\,960\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $246\,411\,m[1] - 211\,348\,m[2] + 70\,571\,m[3] - 11\,960\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $247\,995\,m[1] - 211\,668\,m[2] + 70\,587\,m[3] - 11\,960\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $237\,987\,m[1] - 208\,828\,m[2] + 70\,323\,m[3] - 11\,952\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $237\,699\,m[1] - 208\,796\,m[2] + 70\,323\,m[3] - 11\,952\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $239\,283\,m[1] - 209\,116\,m[2] + 70\,339\,m[3] - 11\,952\,m[4] + 1097\,m[5] - 52\,m[6] + m[7],$
 $232\,155\,m[1] - 206\,884\,m[2] + 70\,107\,m[3] - 11\,944\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \}$

Array[m, 7].gpart[chi9]

$13\,399\,347\,m[1] - 10\,822\,572\,m[2] + 3\,511\,299\,m[3] -$
 $588\,032\,m[4] + 53\,753\,m[5] - 2548\,m[6] + 49\,m[7]$

FindInstance[13 399 347 m[1] - 10 822 572 m[2] +

$3\,511\,299\,m[3] - 588\,032\,m[4] + 53\,753\,m[5] - 2548\,m[6] + 49\,m[7] < 0 \&\&$
 $276\,731\,m[1] - 222\,212\,m[2] + 71\,835\,m[3] - 12\,008\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $276\,795\,m[1] - 222\,212\,m[2] + 71\,835\,m[3] - 12\,008\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $276\,507\,m[1] - 222\,180\,m[2] + 71\,835\,m[3] - 12\,008\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $277\,963\,m[1] - 222\,500\,m[2] + 71\,851\,m[3] - 12\,008\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $277\,739\,m[1] - 222\,468\,m[2] + 71\,851\,m[3] - 12\,008\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $278\,971\,m[1] - 222\,756\,m[2] + 71\,867\,m[3] - 12\,008\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $270\,467\,m[1] - 220\,076\,m[2] + 71\,603\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $270\,531\,m[1] - 220\,076\,m[2] + 71\,603\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $270\,179\,m[1] - 220\,044\,m[2] + 71\,603\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $270\,243\,m[1] - 220\,044\,m[2] + 71\,603\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $269\,955\,m[1] - 220\,012\,m[2] + 71\,603\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $271\,763\,m[1] - 220\,364\,m[2] + 71\,619\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $271\,475\,m[1] - 220\,332\,m[2] + 71\,619\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $271\,539\,m[1] - 220\,332\,m[2] + 71\,619\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $271\,187\,m[1] - 220\,300\,m[2] + 71\,619\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $271\,251\,m[1] - 220\,300\,m[2] + 71\,619\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $270\,963\,m[1] - 220\,268\,m[2] + 71\,619\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $272\,419\,m[1] - 220\,588\,m[2] + 71\,635\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $272\,483\,m[1] - 220\,588\,m[2] + 71\,635\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $272\,547\,m[1] - 220\,588\,m[2] + 71\,635\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $272\,195\,m[1] - 220\,556\,m[2] + 71\,635\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $273\,715\,m[1] - 220\,876\,m[2] + 71\,651\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $273\,427\,m[1] - 220\,844\,m[2] + 71\,651\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $274\,659\,m[1] - 221\,132\,m[2] + 71\,667\,m[3] - 12\,000\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$
 $262\,395\,m[1] - 217\,588\,m[2] + 71\,355\,m[3] - 11\,992\,m[4] + 1097\,m[5] - 52\,m[6] + m[7] \geq 0 \&\&$


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253 611 m[1] - 214 308 m[2] + 70 955 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
253 323 m[1] - 214 276 m[2] + 70 955 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
255 195 m[1] - 214 628 m[2] + 70 971 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
254 907 m[1] - 214 596 m[2] + 70 971 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
254 555 m[1] - 214 564 m[2] + 70 971 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
254 619 m[1] - 214 564 m[2] + 70 971 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
254 331 m[1] - 214 532 m[2] + 70 971 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
256 491 m[1] - 214 916 m[2] + 70 987 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
256 203 m[1] - 214 884 m[2] + 70 987 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
255 851 m[1] - 214 852 m[2] + 70 987 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
255 915 m[1] - 214 852 m[2] + 70 987 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
255 563 m[1] - 214 820 m[2] + 70 987 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
257 435 m[1] - 215 172 m[2] + 71 003 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
257 499 m[1] - 215 172 m[2] + 71 003 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
257 147 m[1] - 215 140 m[2] + 71 003 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
248 067 m[1] - 212 396 m[2] + 70 739 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
247 779 m[1] - 212 364 m[2] + 70 739 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
249 363 m[1] - 212 684 m[2] + 70 755 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
249 075 m[1] - 212 652 m[2] + 70 755 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
248 787 m[1] - 212 620 m[2] + 70 755 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
250 947 m[1] - 213 004 m[2] + 70 771 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
250 659 m[1] - 212 972 m[2] + 70 771 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
250 371 m[1] - 212 940 m[2] + 70 771 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
250 019 m[1] - 212 908 m[2] + 70 771 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
252 243 m[1] - 213 292 m[2] + 70 787 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
251 955 m[1] - 213 260 m[2] + 70 787 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
251 603 m[1] - 213 228 m[2] + 70 787 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
242 235 m[1] - 210 452 m[2] + 70 523 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
243 531 m[1] - 210 740 m[2] + 70 539 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
243 243 m[1] - 210 708 m[2] + 70 539 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
245 115 m[1] - 211 060 m[2] + 70 555 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
244 827 m[1] - 211 028 m[2] + 70 555 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
244 475 m[1] - 210 996 m[2] + 70 555 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
246 411 m[1] - 211 348 m[2] + 70 571 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
247 995 m[1] - 211 668 m[2] + 70 587 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
237 987 m[1] - 208 828 m[2] + 70 323 m[3] - 11 952 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
237 699 m[1] - 208 796 m[2] + 70 323 m[3] - 11 952 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
239 283 m[1] - 209 116 m[2] + 70 339 m[3] - 11 952 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
232 155 m[1] - 206 884 m[2] + 70 107 m[3] - 11 944 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0,
Array[m, 7], Integers]
{}

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FindInstance[13 399 347 m[1] - 10 822 572 m[2] +
  3 511 299 m[3] - 588 032 m[4] + 53 753 m[5] - 2548 m[6] + 49 m[7] < 0 &&
  276 731 m[1] - 222 212 m[2] + 71 835 m[3] - 12 008 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&

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276 795 m[1]	- 222 212 m[2]	+ 71 835 m[3]	- 12 008 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
276 507 m[1]	- 222 180 m[2]	+ 71 835 m[3]	- 12 008 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
277 963 m[1]	- 222 500 m[2]	+ 71 851 m[3]	- 12 008 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	< 0 &&
277 739 m[1]	- 222 468 m[2]	+ 71 851 m[3]	- 12 008 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
278 971 m[1]	- 222 756 m[2]	+ 71 867 m[3]	- 12 008 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
270 467 m[1]	- 220 076 m[2]	+ 71 603 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
270 531 m[1]	- 220 076 m[2]	+ 71 603 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
270 179 m[1]	- 220 044 m[2]	+ 71 603 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
270 243 m[1]	- 220 044 m[2]	+ 71 603 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
269 955 m[1]	- 220 012 m[2]	+ 71 603 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
271 763 m[1]	- 220 364 m[2]	+ 71 619 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
271 475 m[1]	- 220 332 m[2]	+ 71 619 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
271 539 m[1]	- 220 332 m[2]	+ 71 619 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
271 187 m[1]	- 220 300 m[2]	+ 71 619 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
271 251 m[1]	- 220 300 m[2]	+ 71 619 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
270 963 m[1]	- 220 268 m[2]	+ 71 619 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
272 419 m[1]	- 220 588 m[2]	+ 71 635 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
272 483 m[1]	- 220 588 m[2]	+ 71 635 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
272 547 m[1]	- 220 588 m[2]	+ 71 635 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
272 195 m[1]	- 220 556 m[2]	+ 71 635 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
273 715 m[1]	- 220 876 m[2]	+ 71 651 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
273 427 m[1]	- 220 844 m[2]	+ 71 651 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
274 659 m[1]	- 221 132 m[2]	+ 71 667 m[3]	- 12 000 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
262 395 m[1]	- 217 588 m[2]	+ 71 355 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
263 979 m[1]	- 217 908 m[2]	+ 71 371 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
263 691 m[1]	- 217 876 m[2]	+ 71 371 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
263 403 m[1]	- 217 844 m[2]	+ 71 371 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
265 275 m[1]	- 218 196 m[2]	+ 71 387 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
264 987 m[1]	- 218 164 m[2]	+ 71 387 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
264 635 m[1]	- 218 132 m[2]	+ 71 387 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
264 699 m[1]	- 218 132 m[2]	+ 71 387 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
264 411 m[1]	- 218 100 m[2]	+ 71 387 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
266 283 m[1]	- 218 452 m[2]	+ 71 403 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
265 931 m[1]	- 218 420 m[2]	+ 71 403 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
265 995 m[1]	- 218 420 m[2]	+ 71 403 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
265 643 m[1]	- 218 388 m[2]	+ 71 403 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
265 707 m[1]	- 218 388 m[2]	+ 71 403 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
265 419 m[1]	- 218 356 m[2]	+ 71 403 m[3]	- 11 992 m[4				

258 147 m[1]	- 215 964 m[2]	+ 71 155 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
257 859 m[1]	- 215 932 m[2]	+ 71 155 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
259 443 m[1]	- 216 252 m[2]	+ 71 171 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
259 155 m[1]	- 216 220 m[2]	+ 71 171 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
258 867 m[1]	- 216 188 m[2]	+ 71 171 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
261 027 m[1]	- 216 572 m[2]	+ 71 187 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
260 739 m[1]	- 216 540 m[2]	+ 71 187 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
260 387 m[1]	- 216 508 m[2]	+ 71 187 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
260 451 m[1]	- 216 508 m[2]	+ 71 187 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
260 099 m[1]	- 216 476 m[2]	+ 71 187 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
260 163 m[1]	- 216 476 m[2]	+ 71 187 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
259 875 m[1]	- 216 444 m[2]	+ 71 187 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
262 035 m[1]	- 216 828 m[2]	+ 71 203 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
261 683 m[1]	- 216 796 m[2]	+ 71 203 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
261 747 m[1]	- 216 796 m[2]	+ 71 203 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
261 395 m[1]	- 216 764 m[2]	+ 71 203 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
261 459 m[1]	- 216 764 m[2]	+ 71 203 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
261 107 m[1]	- 216 732 m[2]	+ 71 203 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
262 979 m[1]	- 217 084 m[2]	+ 71 219 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
262 691 m[1]	- 217 052 m[2]	+ 71 219 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
262 339 m[1]	- 217 020 m[2]	+ 71 219 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
263 923 m[1]	- 217 340 m[2]	+ 71 235 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
252 315 m[1]	- 214 020 m[2]	+ 70 939 m[3]	- 11 976 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
253 899 m[1]	- 214 340 m[2]	+ 70 955 m[3]	- 11 976 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
253 611 m[1]	- 214 308 m[2]	+ 70 955 m[3]	- 11 976 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
253 323 m[1]	- 214 276 m[2]	+ 70 955 m[3]	- 11 976 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
255 195 m[1]	- 214 628 m[2]	+ 70 971 m[3]	- 11 976 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
254 907 m[1]	- 214 596 m[2]	+ 70 971 m[3]	- 11 976 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
254 555 m[1]	- 214 564 m[2]	+ 70 971 m[3]	- 11 976 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
254 619 m[1]	- 214 564 m[2]	+ 70 971 m[3]	- 11 976 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
254 331 m[1]	- 214 532 m[2]	+ 70 971 m[3]	- 11 976 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
256 491 m[1]	- 214 916 m[2]	+ 70 987 m[3]	- 11 976 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
256 203 m[1]	- 214 884 m[2]	+ 70 987 m[3]	- 11 976 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
255 851 m[1]	- 214 852 m[2]	+ 70 987 m[3]	- 11 976 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
255 915 m[1]	- 214 852 m[2]	+ 70 987 m[3]	- 11 976 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
255 563 m[1]	- 214 820 m[2]	+ 70 987 m[3]	- 11 976 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
257 435 m[1]	- 215 172 m[2]	+ 71 003 m[3]	- 11 976 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
257 499 m[1]	- 215 172 m[2]	+ 71 003 m[3]	- 11 976 m[4]</				

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250 019 m[1] - 212 908 m[2] + 70 771 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
252 243 m[1] - 213 292 m[2] + 70 787 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
251 955 m[1] - 213 260 m[2] + 70 787 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
251 603 m[1] - 213 228 m[2] + 70 787 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
242 235 m[1] - 210 452 m[2] + 70 523 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
243 531 m[1] - 210 740 m[2] + 70 539 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
243 243 m[1] - 210 708 m[2] + 70 539 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
245 115 m[1] - 211 060 m[2] + 70 555 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
244 827 m[1] - 211 028 m[2] + 70 555 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
244 475 m[1] - 210 996 m[2] + 70 555 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
246 411 m[1] - 211 348 m[2] + 70 571 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
247 995 m[1] - 211 668 m[2] + 70 587 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
237 987 m[1] - 208 828 m[2] + 70 323 m[3] - 11 952 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
237 699 m[1] - 208 796 m[2] + 70 323 m[3] - 11 952 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
239 283 m[1] - 209 116 m[2] + 70 339 m[3] - 11 952 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
232 155 m[1] - 206 884 m[2] + 70 107 m[3] - 11 944 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0,
Array[m, 7], Integers]

{{m[1] → 221 701, m[2] → 2 290 900, m[3] → 23 278 501,
  m[4] → 236 406 108, m[5] → 0, m[6] → 0, m[7] → 1 614 272 396 498}}

Array[m, 7] /. {m[1] → 221 701, m[2] → 2 290 900, m[3] → 23 278 501,
  m[4] → 236 406 108, m[5] → 0, m[6] → 0, m[7] → 1 614 272 396 498}
{221 701, 2 290 900, 23 278 501, 236 406 108, 0, 0, 1 614 272 396 498}

GCD[221 701, 2 290 900, 23 278 501, 236 406 108, 0, 0, 1 614 272 396 498]
1

Reverse[{221 701, 2 290 900, 23 278 501, 236 406 108, 0, 0, 1 614 272 396 498}]
{1 614 272 396 498, 0, 0, 236 406 108, 23 278 501, 2 290 900, 221 701}

{221 701, 2 290 900, 23 278 501, 236 406 108, 0, 0, 1 614 272 396 498}.gpart[chi9]
-13 353 808

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```
{221 701, 2 290 900, 23 278 501, 236 406 108, 0, 0, 1 614 272 396 498}.Transpose[A9]
{5 039 600, 19 228 464, 28 687 376, -9 147 952, 14 499 824, 312 272, 303 568, 14 492 432,
9 762 480, 23 951 344, 33 410 256, 304 880, 9 763 792, 23 952 656, 19 222 704,
33 411 568, 42 870 480, 5 035 152, 19 224 016, 33 412 880, 28 682 928, 5 036 464,
14 495 376, 307 824, 28 672 912, 19 215 312, 28 674 224, 38 133 136, 19 216 624,
28 675 536, 23 945 584, 38 134 448, 47 593 360, 28 676 848, 23 946 896, 38 135 760,
33 405 808, 47 594 672, 57 053 584, 23 948 208, 38 137 072, 33 407 120, 47 595 984,
42 866 032, 19 219 568, 33 408 432, 28 678 480, 42 856 016, 42 857 328, 52 316 240,
42 858 640, 52 317 552, 61 776 464, 33 401 040, 42 859 952, 38 130 000, 52 318 864,
47 588 912, 61 777 776, 71 236 688, 42 861 264, 38 131 312, 52 320 176, 47 590 224,
61 779 088, 57 049 136, 38 132 624, 47 591 536, 42 861 584, 33 403 984, 66 499 344,
57 041 744, 66 500 656, 75 959 568, 57 043 056, 66 501 968, 61 772 016, 75 960 880,
85 419 792, 57 044 368, 66 503 280, 61 773 328, 75 962 192, 71 232 240, 52 315 728,
66 504 592, 61 774 640, 80 683 760, 90 142 672, 80 685 072, 90 143 984, 99 602 896,
71 227 472, 80 686 384, 90 145 296, 85 415 344, 71 228 784, 80 687 696, 75 957 744,
104 325 776, 104 327 088, 113 786 000, 94 869 488, 104 328 400, 99 598 448,
94 870 800, 85 413 200, 118 510 192, 127 969 104, 118 511 504, 142 152 208}
```

```
FindInstance[13 399 347 m[1] - 10 822 572 m[2] +
3 511 299 m[3] - 588 032 m[4] + 53 753 m[5] - 2548 m[6] + 49 m[7] < 0 &&
276 731 m[1] - 222 212 m[2] + 71 835 m[3] - 12 008 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
276 795 m[1] - 222 212 m[2] + 71 835 m[3] - 12 008 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
276 507 m[1] - 222 180 m[2] + 71 835 m[3] - 12 008 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
277 963 m[1] - 222 500 m[2] + 71 851 m[3] - 12 008 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
277 739 m[1] - 222 468 m[2] + 71 851 m[3] - 12 008 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
278 971 m[1] - 222 756 m[2] + 71 867 m[3] - 12 008 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
270 467 m[1] - 220 076 m[2] + 71 603 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] < 0 &&
270 531 m[1] - 220 076 m[2] + 71 603 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
270 179 m[1] - 220 044 m[2] + 71 603 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
270 243 m[1] - 220 044 m[2] + 71 603 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
269 955 m[1] - 220 012 m[2] + 71 603 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
271 763 m[1] - 220 364 m[2] + 71 619 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
271 475 m[1] - 220 332 m[2] + 71 619 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
271 539 m[1] - 220 332 m[2] + 71 619 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
271 187 m[1] - 220 300 m[2] + 71 619 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
271 251 m[1] - 220 300 m[2] + 71 619 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
270 963 m[1] - 220 268 m[2] + 71 619 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
272 419 m[1] - 220 588 m[2] + 71 635 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
272 483 m[1] - 220 588 m[2] + 71 635 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
272 547 m[1] - 220 588 m[2] + 71 635 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
272 195 m[1] - 220 556 m[2] + 71 635 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
273 715 m[1] - 220 876 m[2] + 71 651 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
273 427 m[1] - 220 844 m[2] + 71 651 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
274 659 m[1] - 221 132 m[2] + 71 667 m[3] - 12 000 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
```

262 395 m[1]	- 217 588 m[2]	+ 71 355 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
263 979 m[1]	- 217 908 m[2]	+ 71 371 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
263 691 m[1]	- 217 876 m[2]	+ 71 371 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
263 403 m[1]	- 217 844 m[2]	+ 71 371 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
265 275 m[1]	- 218 196 m[2]	+ 71 387 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
264 987 m[1]	- 218 164 m[2]	+ 71 387 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
264 635 m[1]	- 218 132 m[2]	+ 71 387 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
264 699 m[1]	- 218 132 m[2]	+ 71 387 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
264 411 m[1]	- 218 100 m[2]	+ 71 387 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
266 283 m[1]	- 218 452 m[2]	+ 71 403 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
265 931 m[1]	- 218 420 m[2]	+ 71 403 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
265 995 m[1]	- 218 420 m[2]	+ 71 403 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
265 643 m[1]	- 218 388 m[2]	+ 71 403 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
265 707 m[1]	- 218 388 m[2]	+ 71 403 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
265 419 m[1]	- 218 356 m[2]	+ 71 403 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
267 227 m[1]	- 218 708 m[2]	+ 71 419 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
267 291 m[1]	- 218 708 m[2]	+ 71 419 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
266 939 m[1]	- 218 676 m[2]	+ 71 419 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
267 003 m[1]	- 218 676 m[2]	+ 71 419 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
266 651 m[1]	- 218 644 m[2]	+ 71 419 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
268 171 m[1]	- 218 964 m[2]	+ 71 435 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
268 235 m[1]	- 218 964 m[2]	+ 71 435 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
267 883 m[1]	- 218 932 m[2]	+ 71 435 m[3]	- 11 992 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
256 851 m[1]	- 215 676 m[2]	+ 71 139 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
258 147 m[1]	- 215 964 m[2]	+ 71 155 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
257 859 m[1]	- 215 932 m[2]	+ 71 155 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
259 443 m[1]	- 216 252 m[2]	+ 71 171 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
259 155 m[1]	- 216 220 m[2]	+ 71 171 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
258 867 m[1]	- 216 188 m[2]	+ 71 171 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
261 027 m[1]	- 216 572 m[2]	+ 71 187 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
260 739 m[1]	- 216 540 m[2]	+ 71 187 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
260 387 m[1]	- 216 508 m[2]	+ 71 187 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
260 451 m[1]	- 216 508 m[2]	+ 71 187 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
260 099 m[1]	- 216 476 m[2]	+ 71 187 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
260 163 m[1]	- 216 476 m[2]	+ 71 187 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
259 875 m[1]	- 216 444 m[2]	+ 71 187 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
262 035 m[1]	- 216 828 m[2]	+ 71 203 m[3]	- 11 984 m[4]	+ 1097 m[5]	- 52 m[6]	+ m[7]	≥ 0 &&
261 683 m[1]	- 216 796 m[2]	+ 71 203 m[3]	- 11 984 m[4]</				

```

253 899 m[1] - 214 340 m[2] + 70 955 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
253 611 m[1] - 214 308 m[2] + 70 955 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
253 323 m[1] - 214 276 m[2] + 70 955 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
255 195 m[1] - 214 628 m[2] + 70 971 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
254 907 m[1] - 214 596 m[2] + 70 971 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
254 555 m[1] - 214 564 m[2] + 70 971 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
254 619 m[1] - 214 564 m[2] + 70 971 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
254 331 m[1] - 214 532 m[2] + 70 971 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
256 491 m[1] - 214 916 m[2] + 70 987 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
256 203 m[1] - 214 884 m[2] + 70 987 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
255 851 m[1] - 214 852 m[2] + 70 987 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
255 915 m[1] - 214 852 m[2] + 70 987 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
255 563 m[1] - 214 820 m[2] + 70 987 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
257 435 m[1] - 215 172 m[2] + 71 003 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
257 499 m[1] - 215 172 m[2] + 71 003 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
257 147 m[1] - 215 140 m[2] + 71 003 m[3] - 11 976 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
248 067 m[1] - 212 396 m[2] + 70 739 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
247 779 m[1] - 212 364 m[2] + 70 739 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
249 363 m[1] - 212 684 m[2] + 70 755 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
249 075 m[1] - 212 652 m[2] + 70 755 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
248 787 m[1] - 212 620 m[2] + 70 755 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
250 947 m[1] - 213 004 m[2] + 70 771 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
250 659 m[1] - 212 972 m[2] + 70 771 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
250 371 m[1] - 212 940 m[2] + 70 771 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
250 019 m[1] - 212 908 m[2] + 70 771 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
252 243 m[1] - 213 292 m[2] + 70 787 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
251 955 m[1] - 213 260 m[2] + 70 787 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
251 603 m[1] - 213 228 m[2] + 70 787 m[3] - 11 968 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
242 235 m[1] - 210 452 m[2] + 70 523 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
243 531 m[1] - 210 740 m[2] + 70 539 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
243 243 m[1] - 210 708 m[2] + 70 539 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
245 115 m[1] - 211 060 m[2] + 70 555 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
244 827 m[1] - 211 028 m[2] + 70 555 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
244 475 m[1] - 210 996 m[2] + 70 555 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
246 411 m[1] - 211 348 m[2] + 70 571 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
247 995 m[1] - 211 668 m[2] + 70 587 m[3] - 11 960 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
237 987 m[1] - 208 828 m[2] + 70 323 m[3] - 11 952 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
237 699 m[1] - 208 796 m[2] + 70 323 m[3] - 11 952 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
239 283 m[1] - 209 116 m[2] + 70 339 m[3] - 11 952 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0 &&
232 155 m[1] - 206 884 m[2] + 70 107 m[3] - 11 944 m[4] + 1097 m[5] - 52 m[6] + m[7] ≥ 0,
Array[m, 7], Integers]
{{m[1] → 110 851, m[2] → 1 071 550, m[3] → 10 456 851,
  m[4] → 103 053 553, m[5] → 0, m[6] → 0, m[7] → 693 739 600 051}}

```

```

Array[m, 7] /. {m[1] → 110 851, m[2] → 1 071 550, m[3] → 10 456 851,
  m[4] → 103 053 553, m[5] → 0, m[6] → 0, m[7] → 693 739 600 051}
{110 851, 1 071 550, 10 456 851, 103 053 553, 0, 0, 693 739 600 051}

GCD[110 851, 1 071 550, 10 456 851, 103 053 553, 0, 0, 693 739 600 051]
1

Reverse[{110 851, 1 071 550, 10 456 851, 103 053 553, 0, 0, 693 739 600 051}]
{693 739 600 051, 0, 0, 103 053 553, 10 456 851, 1 071 550, 110 851}

{110 851, 1 071 550, 10 456 851, 103 053 553, 0, 0, 693 739 600 051}.gpart[chi9]
-12 028 051

{110 851, 1 071 550, 10 456 851, 103 053 553, 0, 0, 693 739 600 051}.Transpose[A9]
{5 066 693, 12 161 157, 14 525 669, 338 341, 9 797 317, 5 068 965, -2 034 179, 5 060 285,
  330 333, 7 424 797, 9 789 309, 331 933, 2 696 445, 9 790 909, 5 060 957, 12 155 421,
  14 519 933, 332 605, 7 427 069, 14 521 533, 9 791 581, 2 698 717, 5 063 229, 334 877,
  322 325, 323 925, 2 688 437, 5 052 949, 2 690 037, 5 054 549, 324 597, 7 419 061,
  9 783 573, 7 420 661, 2 690 709, 9 785 173, 5 055 221, 12 149 685, 14 514 197,
  5 056 821, 12 151 285, 7 421 333, 14 515 797, 9 785 845, 2 692 981, 9 787 445,
  5 057 493, 316 589, 2 682 701, 5 047 213, 5 048 813, 7 413 325, 9 777 837, 5 050 413,
  7 414 925, 2 684 973, 9 779 437, 5 049 485, 12 143 949, 14 508 461, 9 781 037,
  5 051 085, 12 145 549, 7 415 597, 14 510 061, 9 780 109, 7 417 197, 9 781 709,
  5 051 757, 5 053 357, 5 041 477, 5 043 077, 7 407 589, 9 772 101, 7 409 189, 9 773 701,
  5 043 749, 12 138 213, 14 502 725, 9 775 301, 12 139 813, 7 409 861, 14 504 325,
  9 774 373, 7 411 461, 14 505 925, 9 775 973, 7 401 853, 9 766 365, 9 767 965,
  12 132 477, 14 496 989, 9 769 565, 12 134 077, 14 498 589, 9 768 637, 12 135 677,
  14 500 189, 9 770 237, 9 760 629, 12 126 741, 14 491 253, 12 128 341, 14 492 853,
  9 762 901, 14 494 453, 14 496 053, 12 121 005, 14 485 517, 14 487 117, 14 479 781}

```

```
anglesq9 = anglesquaredmat[chi9, list9] // FullSimplify;
```

```
Dimensions[anglesq9]
```

```
{111, 7}
```

```
angle9 = Sqrt[anglesq9] // FullSimplify;
```

```
angle9 // MatrixForm
```

$$\begin{pmatrix}
 \frac{\sqrt{\frac{14449}{1379}}}{4} & \text{Root}\left[-1 + 1341 \sqrt[4]{1}^2 - 47844 \sqrt[4]{1}^4 + 255312 \sqrt[4]{1}^6, 5\right] & 0 & \sqrt{\frac{2}{21}} & \text{Root}\left[-1 + 1341 \sqrt[4]{1}^2 - 47844 \sqrt[4]{1}^4 + 255312 \sqrt[4]{1}^6, 5\right] \\
 \frac{\sqrt{\frac{12385}{1182}}}{4} & \text{Root}\left[-73 + 45081 \sqrt[4]{1}^2 - 2872584 \sqrt[4]{1}^4 + 10552896 \sqrt[4]{1}^6, 5\right] & \frac{1}{2\sqrt{6}} & 0 & \text{Root}\left[-73 + 45081 \sqrt[4]{1}^2 - 2872584 \sqrt[4]{1}^4 + 10552896 \sqrt[4]{1}^6, 5\right] \\
 \sqrt{\frac{129}{197}} & \text{Root}\left[-1 + 252 \sqrt[4]{1}^2 - 6324 \sqrt[4]{1}^4 + 18321 \sqrt[4]{1}^6, 5\right] & 0 & 0 & \text{Root}\left[-1 + 252 \sqrt[4]{1}^2 - 6324 \sqrt[4]{1}^4 + 18321 \sqrt[4]{1}^6, 5\right] \\
 \frac{\sqrt{\frac{14457}{1379}}}{4} & \text{Root}\left[-53 + 12753 \sqrt[4]{1}^2 - 726516 \sqrt[4]{1}^4 + 7914672 \sqrt[4]{1}^6, 5\right] & 0 & \frac{2}{\sqrt{21}} & \text{Root}\left[-53 + 12753 \sqrt[4]{1}^2 - 726516 \sqrt[4]{1}^4 + 7914672 \sqrt[4]{1}^6, 5\right] \\
 \sqrt{\frac{1807}{2758}} & \text{Root}\left[-97 + 14499 \sqrt[4]{1}^2 - 493830 \sqrt[4]{1}^4 + 1978668 \sqrt[4]{1}^6, 5\right] & 0 & \sqrt{\frac{2}{21}} & \text{Root}\left[-97 + 14499 \sqrt[4]{1}^2 - 493830 \sqrt[4]{1}^4 + 1978668 \sqrt[4]{1}^6, 5\right]
 \end{pmatrix}$$

$2 \sqrt{\frac{226}{1379}}$	$\text{Root}[-5 + 1377 \#1^2 - 76167 \#1^4 + 494667 \#1^6 \&, 4]$	0	$\frac{2}{\sqrt{21}}$	Root
$\frac{\sqrt{\frac{86323}{8274}}}{4}$	$\text{Root}[-31 + 16839 \#1^2 - 1734264 \#1^4 + 31658688 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{6}}$	$\sqrt{\frac{2}{21}}$	Root
$\frac{\sqrt{\frac{3083}{1182}}}{2}$	$\text{Root}[-25 + 8433 \#1^2 - 368280 \#1^4 + 2638224 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{3}}$	0	Root
$\frac{\sqrt{\frac{7193}{2758}}}{2}$	$\text{Root}[-37 + 8559 \#1^2 - 252774 \#1^4 + 1978668 \#1^6 \&, 6]$	0	$\sqrt{\frac{2}{21}}$	Root
$\frac{\sqrt{\frac{12331}{1182}}}{4}$	$\text{Root}[-169 + 32097 \#1^2 - 747720 \#1^4 + 3517632 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{6}}$	0	Root
$\frac{\sqrt{\frac{2055}{197}}}{4}$	$\text{Root}[-353 + 46773 \#1^2 - 753300 \#1^4 + 2638224 \#1^6 \&, 5]$	0	0	Root
$\frac{\sqrt{\frac{21593}{8274}}}{2}$	$\text{Root}[-13 + 3933 \#1^2 - 348192 \#1^4 + 7914672 \#1^6 \&, 4]$	$\frac{1}{2\sqrt{3}}$	$\sqrt{\frac{2}{21}}$	Root
$\frac{\sqrt{\frac{86365}{8274}}}{4}$	$\text{Root}[-865 + 113481 \#1^2 - 3702888 \#1^4 + 31658688 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{6}}$	$\sqrt{\frac{2}{21}}$	Root
$\frac{\sqrt{\frac{6169}{591}}}{4}$	$\text{Root}[-3 + 471 \#1^2 - 19716 \#1^4 + 97712 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{3}}$	0	Root
$\frac{\sqrt{\frac{14393}{1379}}}{4}$	$\text{Root}[-769 + 73989 \#1^2 - 1503252 \#1^4 + 7914672 \#1^6 \&, 5]$	0	$\sqrt{\frac{2}{21}}$	Root
$13 \sqrt{\frac{73}{1182}}$	$\text{Root}[-1409 + 134217 \#1^2 - 2899368 \#1^4 + 10552896 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{6}}$	0	Root
$\sqrt{\frac{257}{394}}$	$\text{Root}[-205 + 15363 \#1^2 - 229338 \#1^4 + 659556 \#1^6 \&, 5]$	0	0	Root
$\frac{\sqrt{\frac{14401}{1379}}}{4}$	$\text{Root}[-215 + 22563 \#1^2 - 746604 \#1^4 + 7914672 \#1^6 \&, 6]$	0	$\frac{2}{\sqrt{21}}$	Root
$\frac{\sqrt{\frac{86407}{8274}}}{4}$	$\text{Root}[-1963 + 198675 \#1^2 - 5671512 \#1^4 + 31658688 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{6}}$	$\sqrt{\frac{2}{21}}$	Root
$\frac{\sqrt{\frac{1543}{591}}}{2}$	$\text{Root}[-47 + 16047 \#1^2 - 696384 \#1^4 + 2638224 \#1^6 \&, 4]$	$\frac{1}{2\sqrt{3}}$	0	Root
$\frac{30}{\sqrt{1379}}$	$\text{Root}[-100 + 6930 \#1^2 - 124713 \#1^4 + 494667 \#1^6 \&, 5]$	0	$\sqrt{\frac{2}{21}}$	Root
$\frac{\sqrt{\frac{86455}{8274}}}{4}$	$\text{Root}[-179 + 54315 \#1^2 - 2644920 \#1^4 + 31658688 \#1^6 \&, 4]$	$\frac{1}{2\sqrt{6}}$	$\frac{2}{\sqrt{21}}$	Root
$\sqrt{\frac{1801}{2758}}$	$\text{Root}[-167 + 13077 \#1^2 - 309690 \#1^4 + 1978668 \#1^6 \&, 5]$	0	$\frac{2}{\sqrt{21}}$	Root
$\sqrt{\frac{901}{1379}}$	$\text{Root}[-1 + 180 \#1^2 - 10044 \#1^4 + 164889 \#1^6 \&, 4]$	0	$\sqrt{\frac{2}{7}}$	Root
$\frac{\sqrt{\frac{2045}{197}}}{4}$	$\text{Root}[-47 + 13707 \#1^2 - 431892 \#1^4 + 2638224 \#1^6 \&, 6]$	0	0	Root
$\frac{\sqrt{\frac{6139}{591}}}{4}$	$\text{Root}[-5 + 1137 \#1^2 - 70308 \#1^4 + 879408 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{3}}$	0	Root
$\frac{\sqrt{\frac{12277}{1182}}}{4}$	$\text{Root}[-533 + 66933 \#1^2 - 1613736 \#1^4 + 10552896 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{6}}$	0	Root
$\frac{\sqrt{\frac{1023}{394}}}{2}$	$\text{Root}[-97 + 9279 \#1^2 - 148986 \#1^4 + 659556 \#1^6 \&, 6]$	0	0	Root
$3 \sqrt{\frac{455}{394}}$	$\text{Root}[-37 + 5349 \#1^2 - 243288 \#1^4 + 3517632 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{2}}$	0	Root
$\frac{\sqrt{\frac{3071}{1182}}}{2}$	$\text{Root}[-167 + 15471 \#1^2 - 374976 \#1^4 + 2638224 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{3}}$	0	Root
$\frac{\sqrt{\frac{7165}{2758}}}{2}$	$\text{Root}[-61 + 7389 \#1^2 - 257796 \#1^4 + 1978668 \#1^6 \&, 6]$	0	$\sqrt{\frac{2}{21}}$	Root
$\frac{\sqrt{\frac{12283}{1182}}}{4}$	$\text{Root}[-1867 + 135963 \#1^2 - 2269944 \#1^4 + 10552896 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{6}}$	0	Root

$\frac{4}{\sqrt{\frac{2847}{197}}}$	Root $[-325 + 19\,857 \#1^2 - 253\,332 \#1^4 + 879\,408 \#1^6 \&, 5]$	0	0	Root
$\frac{4}{\sqrt{\frac{4897}{394}}}$	Root $[-305 + 39\,681 \#1^2 - 1\,386\,072 \#1^4 + 10\,552\,896 \#1^6 \&, 4]$	$\frac{1}{2\sqrt{2}}$	0	Root
$\frac{4}{\sqrt{\frac{86\,029}{8274}}}$	Root $[-1681 + 142\,065 \#1^2 - 3\,783\,240 \#1^4 + 31\,658\,688 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{6}}$	$\sqrt{\frac{2}{21}}$	Root
$\frac{4}{\sqrt{\frac{6145}{591}}}$	Root $[-373 + 26\,577 \#1^2 - 539\,028 \#1^4 + 2\,638\,224 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{3}}$	0	Root
$\frac{9}{4\sqrt{\frac{177}{1379}}}$	Root $[-1483 + 89\,775 \#1^2 - 1\,523\,340 \#1^4 + 7\,914\,672 \#1^6 \&, 6]$	0	$\sqrt{\frac{2}{21}}$	Root
$\frac{4}{\sqrt{\frac{12\,289}{1182}}}$	Root $[-401 + 22\,353 \#1^2 - 325\,128 \#1^4 + 1\,172\,544 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{6}}$	0	Root
$8\sqrt{\frac{2}{197}}$	Root $[-107 + 5067 \#1^2 - 57\,753 \#1^4 + 164\,889 \#1^6 \&, 5]$	0	0	Root
$\frac{4}{\sqrt{\frac{43\,039}{4137}}}$	Root $[-295 + 28\,611 \#1^2 - 860\,436 \#1^4 + 7\,914\,672 \#1^6 \&, 4]$	$\frac{1}{2\sqrt{3}}$	$\sqrt{\frac{2}{21}}$	Root
$\frac{4}{\sqrt{\frac{4899}{394}}}$	Root $[-139 + 59\,499 \#1^2 - 2\,042\,280 \#1^4 + 10\,552\,896 \#1^6 \&, 4]$	$\frac{1}{2\sqrt{2}}$	0	Root
$\frac{4}{\sqrt{\frac{86\,071}{8274}}}$	Root $[-5107 + 309\,123 \#1^2 - 5\,751\,864 \#1^4 + 31\,658\,688 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{6}}$	$\sqrt{\frac{2}{21}}$	Root
$\frac{2}{\sqrt{\frac{1537}{591}}}$	Root $[-179 + 12\,243 \#1^2 - 234\,360 \#1^4 + 879\,408 \#1^6 \&, 4]$	$\frac{1}{2\sqrt{3}}$	0	Root
$\sqrt{\frac{1793}{2758}}$	Root $[-769 + 36\,783 \#1^2 - 503\,874 \#1^4 + 1\,978\,668 \#1^6 \&, 5]$	0	$\sqrt{\frac{2}{21}}$	Root
$\frac{4}{\sqrt{\frac{86\,119}{8274}}}$	Root $[-635 + 74\,331 \#1^2 - 2\,725\,272 \#1^4 + 31\,658\,688 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{6}}$	$\frac{2}{\sqrt{21}}$	Root
$\frac{2}{\sqrt{\frac{10\,765}{4137}}}$	Root $[-409 + 51\,921 \#1^2 - 1\,352\,592 \#1^4 + 7\,914\,672 \#1^6 \&, 4]$	$\frac{1}{2\sqrt{3}}$	$\sqrt{\frac{2}{21}}$	Root
$\sqrt{\frac{897}{1379}}$	Root $[-71 + 4122 \#1^2 - 78\,678 \#1^4 + 494\,667 \#1^6 \&, 5]$	0	$\frac{2}{\sqrt{21}}$	Root
$\frac{4}{\sqrt{\frac{2037}{197}}}$	Root $[-1 + 813 \#1^2 - 48\,732 \#1^4 + 293\,136 \#1^6 \&, 6]$	0	0	Root
$\frac{4}{\sqrt{\frac{12\,229}{1182}}}$	Root $[-191 + 19\,047 \#1^2 - 546\,840 \#1^4 + 3\,517\,632 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{6}}$	0	Root
$\frac{2}{\sqrt{\frac{1019}{394}}}$	Root $[-155 + 9387 \#1^2 - 150\,660 \#1^4 + 659\,556 \#1^6 \&, 6]$	0	0	Root
$\frac{2}{\sqrt{\frac{3859}{1182}}}$	Root $[-79 + 5655 \#1^2 - 127\,224 \#1^4 + 879\,408 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{3}}$	0	Root
$\frac{4}{\sqrt{\frac{12\,235}{1182}}}$	Root $[-2939 + 153\,459 \#1^2 - 2\,296\,728 \#1^4 + 10\,552\,896 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{6}}$	0	Root
$\frac{4}{\sqrt{\frac{2039}{197}}}$	Root $[-1525 + 66\,825 \#1^2 - 766\,692 \#1^4 + 2\,638\,224 \#1^6 \&, 5]$	0	0	Root
$\frac{2}{\sqrt{\frac{3061}{1182}}}$	Root $[-1 + 180 \#1^2 - 10\,044 \#1^4 + 164\,889 \#1^6 \&, 4]$	$\frac{1}{\sqrt{6}}$	0	Root
$\frac{4}{\sqrt{\frac{4881}{394}}}$	Root $[-97 + 6825 \#1^2 - 156\,984 \#1^4 + 1\,172\,544 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{2}}$	0	Root
$\frac{4}{\sqrt{\frac{85\,693}{8274}}}$	Root $[-97 + 104\,121 \#1^2 - 3\,863\,592 \#1^4 + 31\,658\,688 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{6}}$	$\sqrt{\frac{2}{21}}$	Root
$\frac{4}{\sqrt{\frac{6121}{591}}}$	Root $[-689 + 34\,893 \#1^2 - 545\,724 \#1^4 + 2\,638\,224 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{3}}$	0	Root
$\frac{4}{\sqrt{\frac{14\,281}{1379}}}$	Root $[-1597 + 88\,929 \#1^2 - 1\,543\,428 \#1^4 + 7\,914\,672 \#1^6 \&, 6]$	0	$\sqrt{\frac{2}{21}}$	Root

$\frac{\sqrt{\frac{1182}{4}}}{4}$	Root $[-5905 + 245\,961 \#1^2 - 2\,952\,936 \#1^4 + 10\,552\,896 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{6}}$	0	Root $[-$
$\sqrt{\frac{255}{394}}$	Root $[-73 + 2643 \#1^2 - 25\,854 \#1^4 + 73\,284 \#1^6 \&, 5]$	0	0	Ro
$35 \frac{\sqrt{\frac{5}{591}}}{4}$	Root $[-5 + 3153 \#1^2 - 108\,252 \#1^4 + 879\,408 \#1^6 \&, 4]$	$\frac{1}{\sqrt{6}}$	0	Ro
$\frac{\sqrt{\frac{42871}{4137}}}{4}$	Root $[-331 + 30\,951 \#1^2 - 880\,524 \#1^4 + 7\,914\,672 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{3}}$	$\sqrt{\frac{2}{21}}$	Root
$\frac{\sqrt{\frac{4083}{394}}}{4}$	Root $[-53 + 3501 \#1^2 - 66\,744 \#1^4 + 340\,416 \#1^6 \&, 4]$	$\frac{1}{2\sqrt{2}}$	0	Ro
$\frac{\sqrt{\frac{85735}{8274}}}{4}$	Root $[-7003 + 353\,043 \#1^2 - 5\,832\,216 \#1^4 + 31\,658\,688 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{6}}$	$\sqrt{\frac{2}{21}}$	Root $[-$
$\frac{\sqrt{\frac{1531}{591}}}{2}$	Root $[-1147 + 51\,867 \#1^2 - 709\,776 \#1^4 + 2\,638\,224 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{3}}$	0	Root $[-$
$\sqrt{\frac{893}{1379}}$	Root $[-265 + 10\,422 \#1^2 - 127\,224 \#1^4 + 494\,667 \#1^6 \&, 5]$	0	$\sqrt{\frac{2}{21}}$	Root
$\frac{\sqrt{\frac{28597}{2758}}}{4}$	Root $[-625 + 92\,025 \#1^2 - 3\,180\,600 \#1^4 + 31\,658\,688 \#1^6 \&, 4]$	$\frac{1}{2\sqrt{2}}$	$\sqrt{\frac{2}{21}}$	Root $[-$
$\frac{\sqrt{\frac{10723}{4137}}}{2}$	Root $[-1279 + 74\,727 \#1^2 - 1\,372\,680 \#1^4 + 7\,914\,672 \#1^6 \&, 4]$	$\frac{1}{2\sqrt{3}}$	$\sqrt{\frac{2}{21}}$	Root $[-$
$\sqrt{\frac{1787}{2758}}$	Root $[-227 + 15\,741 \#1^2 - 319\,734 \#1^4 + 1\,978\,668 \#1^6 \&, 6]$	0	$\frac{2}{\sqrt{21}}$	Root
$\frac{\sqrt{\frac{10729}{4137}}}{2}$	Root $[-5 + 8757 \#1^2 - 616\,032 \#1^4 + 7\,914\,672 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{3}}$	$\frac{2}{\sqrt{21}}$	Roc
$\frac{\sqrt{\frac{1015}{394}}}{2}$	Root $[-41 + 2703 \#1^2 - 50\,778 \#1^4 + 219\,852 \#1^6 \&, 6]$	0	0	Ro
$\frac{\sqrt{\frac{3047}{1182}}}{2}$	Root $[-43 + 12\,915 \#1^2 - 388\,368 \#1^4 + 2\,638\,224 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{3}}$	0	Root
$\frac{\sqrt{\frac{12187}{1182}}}{4}$	Root $[-985 + 49\,593 \#1^2 - 774\,504 \#1^4 + 3\,517\,632 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{6}}$	0	Root
$\frac{\sqrt{\frac{2031}{197}}}{4}$	Root $[-1811 + 68\,535 \#1^2 - 773\,388 \#1^4 + 2\,638\,224 \#1^6 \&, 6]$	0	0	Root $[-$
$\frac{\sqrt{\frac{4065}{394}}}{4}$	Root $[-769 + 60\,993 \#1^2 - 1\,439\,640 \#1^4 + 10\,552\,896 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{2}}$	0	Root $[-$
$\frac{\sqrt{\frac{6097}{591}}}{4}$	Root $[-1 + 45 \#1^2 - 660 \#1^4 + 3152 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{3}}$	0	
$5 \frac{\sqrt{\frac{569}{1379}}}{4}$	Root $[-535 + 71\,451 \#1^2 - 1\,563\,516 \#1^4 + 7\,914\,672 \#1^6 \&, 6]$	0	$\sqrt{\frac{2}{21}}$	Root $[-$
$\frac{\sqrt{\frac{12193}{1182}}}{4}$	Root $[-7529 + 268\,569 \#1^2 - 2\,979\,720 \#1^4 + 10\,552\,896 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{6}}$	0	Root $[-$
$\sqrt{\frac{127}{197}}$	Root $[-211 + 6480 \#1^2 - 58\,590 \#1^4 + 164\,889 \#1^6 \&, 5]$	0	0	Roc
$\frac{\sqrt{\frac{6101}{591}}}{4}$	Root $[-169 + 13\,293 \#1^2 - 331\,452 \#1^4 + 2\,638\,224 \#1^6 \&, 4]$	$\frac{1}{\sqrt{6}}$	0	Root
$7 \frac{\sqrt{\frac{83}{394}}}{4}$	Root $[-953 + 45\,129 \#1^2 - 698\,616 \#1^4 + 3\,517\,632 \#1^6 \&, 4]$	$\frac{1}{2\sqrt{2}}$	0	Root
$\frac{\sqrt{\frac{85399}{8274}}}{4}$	Root $[-5347 + 330\,435 \#1^2 - 5\,912\,568 \#1^4 + 31\,658\,688 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{6}}$	$\sqrt{\frac{2}{21}}$	Root $[-$
$5 \frac{\sqrt{\frac{61}{591}}}{2}$	Root $[-1685 + 61\,461 \#1^2 - 716\,472 \#1^4 + 2\,638\,224 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{3}}$	0	Root $[-$
$\sqrt{\frac{1779}{2758}}$	Root $[-1129 + 42\,435 \#1^2 - 513\,918 \#1^4 + 1\,978\,668 \#1^6 \&, 6]$	0	$\sqrt{\frac{2}{21}}$	Root $[-$
$3 \frac{\sqrt{\frac{3165}{2758}}}{4}$	Root $[-241 + 82\,161 \#1^2 - 3\,260\,952 \#1^4 + 31\,658\,688 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{2}}$	$\sqrt{\frac{2}{21}}$	Root $[-$

$\sqrt{\frac{763}{1182}}$	Root $[-25 + 2145 \#1^2 - 41292 \#1^4 + 219852 \#1^6 \&, 4]$	$\frac{1}{\sqrt{6}}$	0	Ro
$\frac{\sqrt{\frac{10681}{4137}}}{2}$	Root $[-1549 + 80901 \#1^2 - 1392768 \#1^4 + 7914672 \#1^6 \&, 5]$	$\frac{1}{2\sqrt{3}}$	$\sqrt{\frac{2}{21}}$	Root $[-$
$\frac{\sqrt{\frac{12139}{1182}}}{4}$	Root $[-37 + 3933 \#1^2 - 75816 \#1^4 + 340416 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{6}}$	0	Ro
$\frac{17\sqrt{\frac{7}{197}}}{4}$	Root $[-547 + 21567 \#1^2 - 260028 \#1^4 + 879408 \#1^6 \&, 6]$	0	0	Root
$\frac{\sqrt{\frac{6073}{591}}}{4}$	Root $[-625 + 34893 \#1^2 - 559116 \#1^4 + 2638224 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{3}}$	0	Root
$\frac{\sqrt{\frac{12145}{1182}}}{4}$	Root $[-857 + 29889 \#1^2 - 334056 \#1^4 + 1172544 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{6}}$	0	Root
$\sqrt{\frac{253}{394}}$	Root $[-941 + 26667 \#1^2 - 236034 \#1^4 + 659556 \#1^6 \&, 6]$	0	0	Root
$\frac{\sqrt{\frac{6077}{591}}}{4}$	Root $[-59 + 11583 \#1^2 - 338148 \#1^4 + 2638224 \#1^6 \&, 5]$	$\frac{1}{\sqrt{6}}$	0	Root
$\frac{\sqrt{\frac{4051}{394}}}{4}$	Root $[-3019 + 140067 \#1^2 - 2122632 \#1^4 + 10552896 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{2}}$	0	Root $[-$
$\frac{7\sqrt{\frac{31}{591}}}{2}$	Root $[-653 + 21837 \#1^2 - 241056 \#1^4 + 879408 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{3}}$	0	Root
$\sqrt{\frac{886}{1379}}$	Root $[-208 + 9756 \#1^2 - 129735 \#1^4 + 494667 \#1^6 \&, 6]$	0	$\sqrt{\frac{2}{21}}$	Roo
$\frac{\sqrt{\frac{12161}{1182}}}{4}$	Root $[-317 + 37125 \#1^2 - 1238760 \#1^4 + 10552896 \#1^6 \&, 4]$	$\frac{\sqrt{\frac{5}{6}}}{2}$	0	Root $[-$
$2\sqrt{\frac{95}{591}}$	Root $[-151 + 7713 \#1^2 - 125550 \#1^4 + 659556 \#1^6 \&, 4]$	$\frac{1}{\sqrt{6}}$	0	Roo
$\frac{\sqrt{\frac{10639}{4137}}}{2}$	Root $[-643 + 70443 \#1^2 - 1412856 \#1^4 + 7914672 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{3}}$	$\sqrt{\frac{2}{21}}$	Root $[$
$\frac{\sqrt{\frac{2015}{197}}}{4}$	Root $[-823 + 55323 \#1^2 - 786780 \#1^4 + 2638224 \#1^6 \&, 6]$	0	0	Root
$\frac{\sqrt{\frac{12097}{1182}}}{4}$	Root $[-5689 + 247257 \#1^2 - 3033288 \#1^4 + 10552896 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{6}}$	0	Root $[-$
$3\sqrt{\frac{14}{197}}$	Root $[-25 + 723 \#1^2 - 6603 \#1^4 + 18321 \#1^6 \&, 6]$	0	0	l
$\frac{\sqrt{\frac{4035}{394}}}{4}$	Root $[-1355 + 122571 \#1^2 - 2149416 \#1^4 + 10552896 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{2}}$	0	Root $[-$
$\frac{\sqrt{\frac{1513}{591}}}{2}$	Root $[-1777 + 64017 \#1^2 - 729864 \#1^4 + 2638224 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{3}}$	0	Root $[$
$\sqrt{\frac{1765}{2758}}$	Root $[-25 + 31455 \#1^2 - 523962 \#1^4 + 1978668 \#1^6 \&, 6]$	0	$\sqrt{\frac{2}{21}}$	Root
$\sqrt{\frac{757}{1182}}$	Root $[-137 + 7605 \#1^2 - 127224 \#1^4 + 659556 \#1^6 \&, 5]$	$\frac{1}{\sqrt{6}}$	0	Roo
$\frac{\sqrt{\frac{505}{197}}}{2}$	Root $[-1 + 369 \#1^2 - 31992 \#1^4 + 293136 \#1^6 \&, 4]$	$\frac{1}{2}$	0	R
$\frac{\sqrt{\frac{12049}{1182}}}{4}$	Root $[-689 + 203337 \#1^2 - 3060072 \#1^4 + 10552896 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{6}}$	0	Root $[-$
$\sqrt{\frac{251}{394}}$	Root $[-673 + 24003 \#1^2 - 239382 \#1^4 + 659556 \#1^6 \&, 6]$	0	0	Root
$\frac{\sqrt{\frac{1507}{591}}}{2}$	Root $[-947 + 56979 \#1^2 - 736560 \#1^4 + 2638224 \#1^6 \&, 6]$	$\frac{1}{2\sqrt{3}}$	0	Root
$5\sqrt{\frac{5}{197}}$	Root $[-53 + 5148 \#1^2 - 60264 \#1^4 + 164889 \#1^6 \&, 6]$	0	0	Ro

Dimensions[angle9]

{111, 7}

orderedroots[minipoly[chi9]]

{-5, Root[-852 + 285 #1 - 30 #1² + #1³ &, 1], 7, 9,
Root[-852 + 285 #1 - 30 #1² + #1³ &, 2], 11, Root[-852 + 285 #1 - 30 #1² + #1³ &, 3]}

chi9

$(-11 + x)^3 (-9 + x)^{10} (-7 + x) (5 + x)^{32} (-852 + 285 x - 30 x^2 + x^3)$

coeff[chi9, (x + 5) (x - 9) (x - 11)] // FullSimplify

{Root[605 184 + 35 232 #1 - 411 #1² + #1³ &, 2],
96, Root[605 184 + 35 232 #1 - 411 #1² + #1³ &, 1],
Root[605 184 + 35 232 #1 - 411 #1² + #1³ &, 3]}

**combinationangle[{Root[605 184 + 35 232 #1 - 411 #1² + #1³ &, 2],
96, Root[605 184 + 35 232 #1 - 411 #1² + #1³ &, 1],
Root[605 184 + 35 232 #1 - 411 #1² + #1³ &, 3]},
{4, 7}, {2, 3, 5, 7}, angle9] // FullSimplify**

{Root[25 021 228 761 - 8 746 256 420 #1² + 1 010 412 630 #1⁴ - 45 710 244 #1⁶ + 700 569 #1⁸ &, 7], Root[
25 021 228 761 - 8 746 256 420 #1² + 1 010 412 630 #1⁴ - 45 710 244 #1⁶ + 700 569 #1⁸ &, 5],
Root[25 021 228 761 - 8 746 256 420 #1² + 1 010 412 630 #1⁴ - 45 710 244 #1⁶ + 700 569 #1⁸ &, 8], Root[
25 021 228 761 - 8 746 256 420 #1² + 1 010 412 630 #1⁴ - 45 710 244 #1⁶ + 700 569 #1⁸ &, 6],
Root[25 021 228 761 - 8 746 256 420 #1² + 1 010 412 630 #1⁴ - 45 710 244 #1⁶ + 700 569 #1⁸ &, 7], Root[
25 021 228 761 - 8 746 256 420 #1² + 1 010 412 630 #1⁴ - 45 710 244 #1⁶ + 700 569 #1⁸ &, 5],
Root[25 021 228 761 - 8 746 256 420 #1² + 1 010 412 630 #1⁴ - 45 710 244 #1⁶ + 700 569 #1⁸ &, 8], Root[
25 021 228 761 - 8 746 256 420 #1² + 1 010 412 630 #1⁴ - 45 710 244 #1⁶ + 700 569 #1⁸ &, 6]} }

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compatible[
{Root[25 021 228 761 - 8 746 256 420 #12 + 1 010 412 630 #14 - 45 710 244 #16 + 700 569 #18 &,
7], Root[
25 021 228 761 - 8 746 256 420 #12 + 1 010 412 630 #14 - 45 710 244 #16 + 700 569 #18 &, 5],
Root[25 021 228 761 - 8 746 256 420 #12 + 1 010 412 630 #14 - 45 710 244 #16 + 700 569 #18 &,
8], Root[25 021 228 761 - 8 746 256 420 #12 +
1 010 412 630 #14 - 45 710 244 #16 + 700 569 #18 &, 6], Root[
25 021 228 761 - 8 746 256 420 #12 + 1 010 412 630 #14 - 45 710 244 #16 + 700 569 #18 &, 7],
Root[25 021 228 761 - 8 746 256 420 #12 + 1 010 412 630 #14 - 45 710 244 #16 + 700 569 #18 &,
5], Root[25 021 228 761 - 8 746 256 420 #12 +
1 010 412 630 #14 - 45 710 244 #16 + 700 569 #18 &, 8], Root[
25 021 228 761 - 8 746 256 420 #12 + 1 010 412 630 #14 - 45 710 244 #16 + 700 569 #18 &, 6]]]
0

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$$\text{chi10} = (-13 + x) (-11 + x)^2 (-9 + x)^{11} (5 + x)^{32} (-556 + 213x - 26x^2 + x^3) \\ (-13 + x) (-11 + x)^2 (-9 + x)^{11} (5 + x)^{32} (-556 + 213x - 26x^2 + x^3)$$

$$\text{list10} = \{ (-13 + x) (-25869 + 18293x - 4970x^2 + 650x^3 - 41x^4 + x^5), \\ (-13 + x) (-9 + x) (2813 - 1704x + 362x^2 - 32x^3 + x^4), \\ (-13 + x) (-25285 + 18149x - 4962x^2 + 650x^3 - 41x^4 + x^5), \\ (-13 + x) (-25253 + 18149x - 4962x^2 + 650x^3 - 41x^4 + x^5), \\ (-13 + x) (-25397 + 18165x - 4962x^2 + 650x^3 - 41x^4 + x^5), \\ (-13 + x) (95 - 20x + x^2) (-267 + 135x - 21x^2 + x^3), \\ 329809 - 261510x + 82671x^2 - 13412x^3 + 1183x^4 - 54x^5 + x^6, \\ (-13 + x) (-11 + x) (2319 - 1442x + 320x^2 - 30x^3 + x^4), \\ (-11 + x) (95 - 20x + x^2) (-317 + 155x - 23x^2 + x^3), \\ (-13 + x) (-9 + x)^2 (-7 + x) (43 - 16x + x^2), \\ (-13 + x) (-9 + x) (2725 - 1696x + 362x^2 - 32x^3 + x^4), \\ (-13 + x) (-7 + x) (3499 - 2070x + 412x^2 - 34x^3 + x^4), \\ (-13 + x) (-9 + x) (2741 - 1696x + 362x^2 - 32x^3 + x^4), \\ (-13 + x) (-24637 + 18005x - 4954x^2 + 650x^3 - 41x^4 + x^5), \\ (-13 + x) (-7 + x) (95 - 20x + x^2) (37 - 14x + x^2), \\ 319929 - 258670x + 82407x^2 - 13404x^3 + 1183x^4 - 54x^5 + x^6, \\ (-13 + x) (-9 + x) (2757 - 1696x + 362x^2 - 32x^3 + x^4), \\ (-13 + x) (-24781 + 18021x - 4954x^2 + 650x^3 - 41x^4 + x^5), \\ 322217 - 259054x + 82423x^2 - 13404x^3 + 1183x^4 - 54x^5 + x^6, \\$$

$$\begin{aligned}
& (-13 + x) (-24\,749 + 18\,021 x - 4954 x^2 + 650 x^3 - 41 x^4 + x^5), \\
& 321\,801 - 259\,022 x + 82\,423 x^2 - 13\,404 x^3 + 1183 x^4 - 54 x^5 + x^6, \\
& (95 - 20 x + x^2) (3383 - 2014 x + 408 x^2 - 34 x^3 + x^4), \\
& (-13 + x) (-24\,925 + 18\,037 x - 4954 x^2 + 650 x^3 - 41 x^4 + x^5), \\
& 324\,089 - 259\,406 x + 82\,439 x^2 - 13\,404 x^3 + 1183 x^4 - 54 x^5 + x^6, \\
& (-13 + x) (-11 + x) (73 - 18 x + x^2) (31 - 12 x + x^2), \\
& 323\,673 - 259\,374 x + 82\,439 x^2 - 13\,404 x^3 + 1183 x^4 - 54 x^5 + x^6, \\
& (-11 + x) (-29\,387 + 20\,905 x - 5594 x^2 + 710 x^3 - 43 x^4 + x^5), \\
& 323\,321 - 259\,342 x + 82\,439 x^2 - 13\,404 x^3 + 1183 x^4 - 54 x^5 + x^6, \\
& (-11 + x) (95 - 20 x + x^2) (-309 + 155 x - 23 x^2 + x^3), \\
& (-11 + x) (47 - 16 x + x^2) (-629 + 231 x - 27 x^2 + x^3), (-13 + x) (-9 + x)^2 \\
& \quad (-293 + 155 x - 23 x^2 + x^3), (-13 + x) (-9 + x) (-7 + x) (-379 + 187 x - 25 x^2 + x^3), \\
& 310\,049 - 255\,830 x + 82\,143 x^2 - 13\,396 x^3 + 1183 x^4 - 54 x^5 + x^6, \\
& (-13 + x) (-9 + x) (2669 - 1688 x + 362 x^2 - 32 x^3 + x^4), \\
& (-13 + x) (-7 + x) (3427 - 2062 x + 412 x^2 - 34 x^3 + x^4), \\
& 311\,921 - 256\,182 x + 82\,159 x^2 - 13\,396 x^3 + 1183 x^4 - 54 x^5 + x^6, \\
& (95 - 20 x + x^2) (3279 - 2006 x + 408 x^2 - 34 x^3 + x^4), \\
& (-13 + x) (-9 + x) (2685 - 1688 x + 362 x^2 - 32 x^3 + x^4), \\
& (-13 + x) (-24\,133 + 17\,877 x - 4946 x^2 + 650 x^3 - 41 x^4 + x^5), \\
& 313\,793 - 256\,534 x + 82\,175 x^2 - 13\,396 x^3 + 1183 x^4 - 54 x^5 + x^6, \\
& (-9 + x) (43 - 16 x + x^2) (-811 + 271 x - 29 x^2 + x^3), \\
& (-13 + x) (-11 + x) (-7 + x) (-313 + 159 x - 23 x^2 + x^3), \\
& 313\,377 - 256\,502 x + 82\,175 x^2 - 13\,396 x^3 + 1183 x^4 - 54 x^5 + x^6, \\
& 313\,441 - 256\,502 x + 82\,175 x^2 - 13\,396 x^3 + 1183 x^4 - 54 x^5 + x^6, \\
& (95 - 20 x + x^2) (3295 - 2006 x + 408 x^2 - 34 x^3 + x^4), \\
& (-13 + x) (-9 + x) (73 - 18 x + x^2) (37 - 14 x + x^2), \\
& (-13 + x) (-11 + x) (2207 - 1426 x + 320 x^2 - 30 x^3 + x^4), \\
& 315\,665 - 256\,886 x + 82\,191 x^2 - 13\,396 x^3 + 1183 x^4 - 54 x^5 + x^6, \\
& (-9 + x) (-35\,081 + 24\,645 x - 6394 x^2 + 778 x^3 - 45 x^4 + x^5), \\
& (-11 + x) (-28\,659 + 20\,745 x - 5586 x^2 + 710 x^3 - 43 x^4 + x^5), \\
& 315\,313 - 256\,854 x + 82\,191 x^2 - 13\,396 x^3 + 1183 x^4 - 54 x^5 + x^6, \\
& (-11 + x) (-28\,627 + 20\,745 x - 5586 x^2 + 710 x^3 - 43 x^4 + x^5), \\
& (-13 + x) (-11 + x) (-9 + x) (-247 + 131 x - 21 x^2 + x^3), \\
& (-11 + x) (-28\,867 + 20\,761 x - 5586 x^2 + 710 x^3 - 43 x^4 + x^5), \\
& (-9 + x) (-35\,289 + 24\,661 x - 6394 x^2 + 778 x^3 - 45 x^4 + x^5), \\
& (-11 + x) (73 - 18 x + x^2) (-395 + 187 x - 25 x^2 + x^3), \\
& (-11 + x) (-28\,803 + 20\,761 x - 5586 x^2 + 710 x^3 - 43 x^4 + x^5), \\
& (-11 + x) (-29\,011 + 20\,777 x - 5586 x^2 + 710 x^3 - 43 x^4 + x^5), \\
& (-13 + x) (-9 + x) (2581 - 1680 x + 362 x^2 - 32 x^3 + x^4), \\
& (-13 + x) (-9 + x) (-7 + x) (-371 + 187 x - 25 x^2 + x^3), \\
& (-13 + x) (-23\,341 + 17\,717 x - 4938 x^2 + 650 x^3 - 41 x^4 + x^5), \\
& 303\,497 - 253\,662 x + 81\,911 x^2 - 13\,388 x^3 + 1183 x^4 - 54 x^5 + x^6, \\
& (-9 + x) (-33\,729 + 24\,437 x - 6386 x^2 + 778 x^3 - 45 x^4 + x^5),
\end{aligned}$$

```

(-13 + x) (-9 + x) (2613 - 1680 x + 362 x^2 - 32 x^3 + x^4),
(-13 + x) (-11 + x) (-7 + x) (-305 + 159 x - 23 x^2 + x^3),
305369 - 254014 x + 81927 x^2 - 13388 x^3 + 1183 x^4 - 54 x^5 + x^6,
(-9 + x) (-33937 + 24453 x - 6386 x^2 + 778 x^3 - 45 x^4 + x^5),
(-11 + x) (-27723 + 20569 x - 5578 x^2 + 710 x^3 - 43 x^4 + x^5),
305017 - 253982 x + 81927 x^2 - 13388 x^3 + 1183 x^4 - 54 x^5 + x^6,
(-13 + x) (-11 + x) (-9 + x) (-239 + 131 x - 21 x^2 + x^3),
(-11 + x) (-27931 + 20585 x - 5578 x^2 + 710 x^3 - 43 x^4 + x^5),
(-9 + x) (-34145 + 24469 x - 6386 x^2 + 778 x^3 - 45 x^4 + x^5),
(-11 + x) (-27899 + 20585 x - 5578 x^2 + 710 x^3 - 43 x^4 + x^5),
306953 - 254334 x + 81943 x^2 - 13388 x^3 + 1183 x^4 - 54 x^5 + x^6,
(-11 + x) (-7 + x) (3981 - 2372 x + 458 x^2 - 36 x^3 + x^4),
(-11 + x) (-9 + x) (3123 - 1942 x + 404 x^2 - 34 x^3 + x^4),
(-11 + x) (-28075 + 20601 x - 5578 x^2 + 710 x^3 - 43 x^4 + x^5),
(-13 + x) (-9 + x) (2525 - 1672 x + 362 x^2 - 32 x^3 + x^4),
295073 - 251142 x + 81663 x^2 - 13380 x^3 + 1183 x^4 - 54 x^5 + x^6,
(-9 + x) (-32793 + 24261 x - 6378 x^2 + 778 x^3 - 45 x^4 + x^5),
(-13 + x) (-11 + x)^2 (-9 + x) (-7 + x) (-3 + x),
(-11 + x) (-26995 + 20409 x - 5570 x^2 + 710 x^3 - 43 x^4 + x^5),
(-9 + x) (-33001 + 24277 x - 6378 x^2 + 778 x^3 - 45 x^4 + x^5),
(-11 + x) (-26963 + 20409 x - 5570 x^2 + 710 x^3 - 43 x^4 + x^5),
296657 - 251462 x + 81679 x^2 - 13380 x^3 + 1183 x^4 - 54 x^5 + x^6,
(-11 + x) (-9 + x) (3019 - 1934 x + 404 x^2 - 34 x^3 + x^4),
(-11 + x) (-7 + x) (3877 - 2364 x + 458 x^2 - 36 x^3 + x^4),
(-11 + x) (-27107 + 20425 x - 5570 x^2 + 710 x^3 - 43 x^4 + x^5),
(-11 + x) (-9 + x) (3035 - 1934 x + 404 x^2 - 34 x^3 + x^4),
(-13 + x) (-11 + x) (-9 + x) (-223 + 131 x - 21 x^2 + x^3),
(-11 + x)^2 (-9 + x) (-265 + 151 x - 23 x^2 + x^3),
(-11 + x) (-26203 + 20249 x - 5562 x^2 + 710 x^3 - 43 x^4 + x^5),
(-9 + x) (-32033 + 24101 x - 6370 x^2 + 778 x^3 - 45 x^4 + x^5),
(-11 + x) (-9 + x) (2931 - 1926 x + 404 x^2 - 34 x^3 + x^4)};

```

```
Length[list10]
```

```
94
```

```
A10 = CoefficientList[list10, x];
```

```
A10 // MatrixForm
```

```

( 336297 -263678 82903 -13420 1183 -54 1 )
( 329121 -261254 82655 -13412 1183 -54 1 )
( 328705 -261222 82655 -13412 1183 -54 1 )
( 328289 -261190 82655 -13412 1183 -54 1 )
( 330161 -261542 82671 -13412 1183 -54 1 )
( 329745 -261510 82671 -13412 1183 -54 1 )
( 329809 -261510 82671 -13412 1183 -54 1 )
( 331617 -261862 82687 -13412 1183 -54 1 )
( 331265 -261830 82687 -13412 1183 -54 1 )

```

316 953	-258 030	82 375	-13 404	1183	-54	1
318 825	-258 382	82 391	-13 404	1183	-54	1
318 409	-258 350	82 391	-13 404	1183	-54	1
320 697	-258 734	82 407	-13 404	1183	-54	1
320 281	-258 702	82 407	-13 404	1183	-54	1
319 865	-258 670	82 407	-13 404	1183	-54	1
319 929	-258 670	82 407	-13 404	1183	-54	1
322 569	-259 086	82 423	-13 404	1183	-54	1
322 153	-259 054	82 423	-13 404	1183	-54	1
322 217	-259 054	82 423	-13 404	1183	-54	1
321 737	-259 022	82 423	-13 404	1183	-54	1
321 801	-259 022	82 423	-13 404	1183	-54	1
321 385	-258 990	82 423	-13 404	1183	-54	1
324 025	-259 406	82 439	-13 404	1183	-54	1
324 089	-259 406	82 439	-13 404	1183	-54	1
323 609	-259 374	82 439	-13 404	1183	-54	1
323 673	-259 374	82 439	-13 404	1183	-54	1
323 257	-259 342	82 439	-13 404	1183	-54	1
323 321	-259 342	82 439	-13 404	1183	-54	1
322 905	-259 310	82 439	-13 404	1183	-54	1
325 193	-259 694	82 455	-13 404	1183	-54	1
308 529	-255 510	82 127	-13 396	1183	-54	1
310 401	-255 862	82 143	-13 396	1183	-54	1
310 049	-255 830	82 143	-13 396	1183	-54	1
312 273	-256 214	82 159	-13 396	1183	-54	1
311 857	-256 182	82 159	-13 396	1183	-54	1
311 921	-256 182	82 159	-13 396	1183	-54	1
311 505	-256 150	82 159	-13 396	1183	-54	1
314 145	-256 566	82 175	-13 396	1183	-54	1
313 729	-256 534	82 175	-13 396	1183	-54	1
313 793	-256 534	82 175	-13 396	1183	-54	1
313 857	-256 534	82 175	-13 396	1183	-54	1
313 313	-256 502	82 175	-13 396	1183	-54	1
313 377	-256 502	82 175	-13 396	1183	-54	1
313 441	-256 502	82 175	-13 396	1183	-54	1
313 025	-256 470	82 175	-13 396	1183	-54	1
316 017	-256 918	82 191	-13 396	1183	-54	1
315 601	-256 886	82 191	-13 396	1183	-54	1
315 665	-256 886	82 191	-13 396	1183	-54	1
315 729	-256 886	82 191	-13 396	1183	-54	1
315 249	-256 854	82 191	-13 396	1183	-54	1
315 313	-256 854	82 191	-13 396	1183	-54	1
314 897	-256 822	82 191	-13 396	1183	-54	1
317 889	-257 270	82 207	-13 396	1183	-54	1
317 537	-257 238	82 207	-13 396	1183	-54	1
317 601	-257 238	82 207	-13 396	1183	-54	1
317 185	-257 206	82 207	-13 396	1183	-54	1
316 833	-257 174	82 207	-13 396	1183	-54	1
319 121	-257 558	82 223	-13 396	1183	-54	1
301 977	-253 342	81 895	-13 388	1183	-54	1
303 849	-253 694	81 911	-13 388	1183	-54	1
303 433	-253 662	81 911	-13 388	1183	-54	1
303 497	-253 662	81 911	-13 388	1183	-54	1
303 561	-253 662	81 911	-13 388	1183	-54	1
305 721	-254 046	81 927	-13 388	1183	-54	1

305 305	-254 014	81 927	-13 388	1183	-54	1
305 369	-254 014	81 927	-13 388	1183	-54	1
305 433	-254 014	81 927	-13 388	1183	-54	1
304 953	-253 982	81 927	-13 388	1183	-54	1
305 017	-253 982	81 927	-13 388	1183	-54	1
307 593	-254 398	81 943	-13 388	1183	-54	1
307 241	-254 366	81 943	-13 388	1183	-54	1
307 305	-254 366	81 943	-13 388	1183	-54	1
306 889	-254 334	81 943	-13 388	1183	-54	1
306 953	-254 334	81 943	-13 388	1183	-54	1
306 537	-254 302	81 943	-13 388	1183	-54	1
309 177	-254 718	81 959	-13 388	1183	-54	1
308 825	-254 686	81 959	-13 388	1183	-54	1
295 425	-251 174	81 663	-13 380	1183	-54	1
295 073	-251 142	81 663	-13 380	1183	-54	1
295 137	-251 142	81 663	-13 380	1183	-54	1
297 297	-251 526	81 679	-13 380	1183	-54	1
296 945	-251 494	81 679	-13 380	1183	-54	1
297 009	-251 494	81 679	-13 380	1183	-54	1
296 593	-251 462	81 679	-13 380	1183	-54	1
296 657	-251 462	81 679	-13 380	1183	-54	1
298 881	-251 846	81 695	-13 380	1183	-54	1
298 529	-251 814	81 695	-13 380	1183	-54	1
298 177	-251 782	81 695	-13 380	1183	-54	1
300 465	-252 166	81 711	-13 380	1183	-54	1
287 001	-248 654	81 415	-13 372	1183	-54	1
288 585	-248 974	81 431	-13 372	1183	-54	1
288 233	-248 942	81 431	-13 372	1183	-54	1
288 297	-248 942	81 431	-13 372	1183	-54	1
290 169	-249 294	81 447	-13 372	1183	-54	1

Dimensions[A10]

{94, 7}

gpart[chi10]

{16 228 969, -12 834 702, 4 052 791, -657 244, 57 967, -2646, 49}

```

FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 && n[20] ≥ 0 &&
  n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 && n[26] ≥ 0 && n[27] ≥ 0 &&
  n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 && n[33] ≥ 0 &&
  n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 && n[39] ≥ 0 &&
  n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 && n[45] ≥ 0 &&
  n[46] ≥ 0 && n[47] ≥ 0 && n[48] ≥ 0 && n[49] ≥ 0 && n[50] ≥ 0 && n[51] ≥ 0 &&
  n[52] ≥ 0 && n[53] ≥ 0 && n[54] ≥ 0 && n[55] ≥ 0 && n[56] ≥ 0 && n[57] ≥ 0 &&
  n[58] ≥ 0 && n[59] ≥ 0 && n[60] ≥ 0 && n[61] ≥ 0 && n[62] ≥ 0 && n[63] ≥ 0 &&
  n[64] ≥ 0 && n[65] ≥ 0 && n[66] ≥ 0 && n[67] ≥ 0 && n[68] ≥ 0 && n[69] ≥ 0 &&
  n[70] ≥ 0 && n[71] ≥ 0 && n[72] ≥ 0 && n[73] ≥ 0 && n[74] ≥ 0 && n[75] ≥ 0 &&
  n[76] ≥ 0 && n[77] ≥ 0 && n[78] ≥ 0 && n[79] ≥ 0 && n[80] ≥ 0 && n[81] ≥ 0 &&
  n[82] ≥ 0 && n[83] ≥ 0 && n[84] ≥ 0 && n[85] ≥ 0 && n[86] ≥ 0 && n[87] ≥ 0 &&
  n[88] ≥ 0 && n[89] ≥ 0 && n[90] ≥ 0 && n[91] ≥ 0 && n[92] ≥ 0 && n[93] ≥ 0 &&
  n[94] ≥ 0 && Array[n, 94].A10 == gpart[chi10], Array[n, 94], Integers]

{ {n[1] → 18, n[2] → 0, n[3] → 0, n[4] → 0, n[5] → 0, n[6] → 0, n[7] → 0,
  n[8] → 0, n[9] → 24, n[10] → 0, n[11] → 0, n[12] → 0, n[13] → 0, n[14] → 0,
  n[15] → 0, n[16] → 0, n[17] → 0, n[18] → 0, n[19] → 0, n[20] → 0,
  n[21] → 0, n[22] → 0, n[23] → 0, n[24] → 0, n[25] → 0, n[26] → 0,
  n[27] → 0, n[28] → 2, n[29] → 4, n[30] → 0, n[31] → 0, n[32] → 0,
  n[33] → 0, n[34] → 0, n[35] → 0, n[36] → 0, n[37] → 0, n[38] → 0, n[39] → 0,
  n[40] → 0, n[41] → 0, n[42] → 0, n[43] → 0, n[44] → 0, n[45] → 0, n[46] → 0,
  n[47] → 0, n[48] → 0, n[49] → 0, n[50] → 0, n[51] → 0, n[52] → 0, n[53] → 0,
  n[54] → 0, n[55] → 0, n[56] → 0, n[57] → 0, n[58] → 0, n[59] → 0, n[60] → 0,
  n[61] → 0, n[62] → 0, n[63] → 0, n[64] → 0, n[65] → 0, n[66] → 0, n[67] → 0,
  n[68] → 0, n[69] → 0, n[70] → 0, n[71] → 0, n[72] → 0, n[73] → 0, n[74] → 0,
  n[75] → 0, n[76] → 0, n[77] → 0, n[78] → 0, n[79] → 0, n[80] → 0, n[81] → 0,
  n[82] → 0, n[83] → 0, n[84] → 0, n[85] → 0, n[86] → 0, n[87] → 0, n[88] → 0,
  n[89] → 0, n[90] → 1, n[91] → 0, n[92] → 0, n[93] → 0, n[94] → 0} }

```



```

FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] == 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 && n[20] ≥ 0 &&
  n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 && n[26] ≥ 0 && n[27] ≥ 0 &&
  n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 && n[33] ≥ 0 &&
  n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 && n[39] ≥ 0 &&
  n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 && n[45] ≥ 0 &&
  n[46] ≥ 0 && n[47] ≥ 0 && n[48] ≥ 0 && n[49] ≥ 0 && n[50] ≥ 0 && n[51] ≥ 0 &&
  n[52] ≥ 0 && n[53] ≥ 0 && n[54] ≥ 0 && n[55] ≥ 0 && n[56] ≥ 0 && n[57] ≥ 0 &&
  n[58] ≥ 0 && n[59] ≥ 0 && n[60] ≥ 0 && n[61] ≥ 0 && n[62] ≥ 0 && n[63] ≥ 0 &&
  n[64] ≥ 0 && n[65] ≥ 0 && n[66] ≥ 0 && n[67] ≥ 0 && n[68] ≥ 0 && n[69] ≥ 0 &&
  n[70] ≥ 0 && n[71] ≥ 0 && n[72] ≥ 0 && n[73] ≥ 0 && n[74] ≥ 0 && n[75] ≥ 0 &&
  n[76] ≥ 0 && n[77] ≥ 0 && n[78] ≥ 0 && n[79] ≥ 0 && n[80] ≥ 0 && n[81] ≥ 0 &&
  n[82] ≥ 0 && n[83] ≥ 0 && n[84] ≥ 0 && n[85] ≥ 0 && n[86] ≥ 0 && n[87] ≥ 0 &&
  n[88] ≥ 0 && n[89] ≥ 0 && n[90] ≥ 0 && n[91] ≥ 0 && n[92] ≥ 0 && n[93] ≥ 0 &&
  n[94] ≥ 0 && Array[n, 94].A10 == gpart[chi10], Array[n, 94], Integers]

{}

```

```

FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 && n[20] ≥ 0 &&
  n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 && n[26] ≥ 0 && n[27] ≥ 0 &&
  n[28] == 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 && n[33] ≥ 0 &&
  n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 && n[39] ≥ 0 &&
  n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 && n[45] ≥ 0 &&
  n[46] ≥ 0 && n[47] ≥ 0 && n[48] ≥ 0 && n[49] ≥ 0 && n[50] ≥ 0 && n[51] ≥ 0 &&
  n[52] ≥ 0 && n[53] ≥ 0 && n[54] ≥ 0 && n[55] ≥ 0 && n[56] ≥ 0 && n[57] ≥ 0 &&
  n[58] ≥ 0 && n[59] ≥ 0 && n[60] ≥ 0 && n[61] ≥ 0 && n[62] ≥ 0 && n[63] ≥ 0 &&
  n[64] ≥ 0 && n[65] ≥ 0 && n[66] ≥ 0 && n[67] ≥ 0 && n[68] ≥ 0 && n[69] ≥ 0 &&
  n[70] ≥ 0 && n[71] ≥ 0 && n[72] ≥ 0 && n[73] ≥ 0 && n[74] ≥ 0 && n[75] ≥ 0 &&
  n[76] ≥ 0 && n[77] ≥ 0 && n[78] ≥ 0 && n[79] ≥ 0 && n[80] ≥ 0 && n[81] ≥ 0 &&
  n[82] ≥ 0 && n[83] ≥ 0 && n[84] ≥ 0 && n[85] ≥ 0 && n[86] ≥ 0 && n[87] ≥ 0 &&
  n[88] ≥ 0 && n[89] ≥ 0 && n[90] ≥ 0 && n[91] ≥ 0 && n[92] ≥ 0 && n[93] ≥ 0 &&
  n[94] ≥ 0 && Array[n, 94].A10 == gpart[chi10], Array[n, 94], Integers]

{ {n[1] → 16, n[2] → 0, n[3] → 0, n[4] → 0, n[5] → 0, n[6] → 0, n[7] → 4,
  n[8] → 0, n[9] → 24, n[10] → 0, n[11] → 0, n[12] → 0, n[13] → 0, n[14] → 0,
  n[15] → 0, n[16] → 0, n[17] → 0, n[18] → 0, n[19] → 0, n[20] → 0,
  n[21] → 0, n[22] → 0, n[23] → 0, n[24] → 0, n[25] → 0, n[26] → 0,
  n[27] → 0, n[28] → 0, n[29] → 4, n[30] → 0, n[31] → 0, n[32] → 0,
  n[33] → 0, n[34] → 0, n[35] → 0, n[36] → 0, n[37] → 0, n[38] → 0, n[39] → 0,
  n[40] → 0, n[41] → 0, n[42] → 0, n[43] → 0, n[44] → 0, n[45] → 0, n[46] → 0,
  n[47] → 0, n[48] → 0, n[49] → 0, n[50] → 0, n[51] → 0, n[52] → 0, n[53] → 0,
  n[54] → 0, n[55] → 0, n[56] → 0, n[57] → 0, n[58] → 0, n[59] → 0, n[60] → 0,
  n[61] → 0, n[62] → 0, n[63] → 0, n[64] → 0, n[65] → 0, n[66] → 0, n[67] → 0,
  n[68] → 0, n[69] → 0, n[70] → 0, n[71] → 0, n[72] → 0, n[73] → 0, n[74] → 0,
  n[75] → 0, n[76] → 0, n[77] → 0, n[78] → 0, n[79] → 0, n[80] → 0, n[81] → 0,
  n[82] → 0, n[83] → 0, n[84] → 0, n[85] → 0, n[86] → 0, n[87] → 0, n[88] → 0,
  n[89] → 0, n[90] → 1, n[91] → 0, n[92] → 0, n[93] → 0, n[94] → 0} }

```

```

FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 && n[20] ≥ 0 &&
  n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 && n[26] ≥ 0 && n[27] ≥ 0 &&
  n[28] ≥ 0 && n[29] == 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 && n[33] ≥ 0 &&
  n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 && n[39] ≥ 0 &&
  n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 && n[45] ≥ 0 &&
  n[46] ≥ 0 && n[47] ≥ 0 && n[48] ≥ 0 && n[49] ≥ 0 && n[50] ≥ 0 && n[51] ≥ 0 &&
  n[52] ≥ 0 && n[53] ≥ 0 && n[54] ≥ 0 && n[55] ≥ 0 && n[56] ≥ 0 && n[57] ≥ 0 &&
  n[58] ≥ 0 && n[59] ≥ 0 && n[60] ≥ 0 && n[61] ≥ 0 && n[62] ≥ 0 && n[63] ≥ 0 &&
  n[64] ≥ 0 && n[65] ≥ 0 && n[66] ≥ 0 && n[67] ≥ 0 && n[68] ≥ 0 && n[69] ≥ 0 &&
  n[70] ≥ 0 && n[71] ≥ 0 && n[72] ≥ 0 && n[73] ≥ 0 && n[74] ≥ 0 && n[75] ≥ 0 &&
  n[76] ≥ 0 && n[77] ≥ 0 && n[78] ≥ 0 && n[79] ≥ 0 && n[80] ≥ 0 && n[81] ≥ 0 &&
  n[82] ≥ 0 && n[83] ≥ 0 && n[84] ≥ 0 && n[85] ≥ 0 && n[86] ≥ 0 && n[87] ≥ 0 &&
  n[88] ≥ 0 && n[89] ≥ 0 && n[90] ≥ 0 && n[91] ≥ 0 && n[92] ≥ 0 && n[93] ≥ 0 &&
  n[94] ≥ 0 && Array[n, 94].A10 == gpart[chi10], Array[n, 94], Integers]

{ {n[1] → 18, n[2] → 0, n[3] → 0, n[4] → 0, n[5] → 0, n[6] → 0, n[7] → 0,
  n[8] → 0, n[9] → 26, n[10] → 0, n[11] → 0, n[12] → 0, n[13] → 0, n[14] → 0,
  n[15] → 0, n[16] → 0, n[17] → 0, n[18] → 0, n[19] → 0, n[20] → 0,
  n[21] → 0, n[22] → 0, n[23] → 0, n[24] → 0, n[25] → 0, n[26] → 0,
  n[27] → 0, n[28] → 1, n[29] → 0, n[30] → 0, n[31] → 0, n[32] → 0,
  n[33] → 0, n[34] → 0, n[35] → 0, n[36] → 0, n[37] → 0, n[38] → 0, n[39] → 0,
  n[40] → 0, n[41] → 0, n[42] → 0, n[43] → 0, n[44] → 0, n[45] → 1, n[46] → 0,
  n[47] → 0, n[48] → 0, n[49] → 0, n[50] → 0, n[51] → 0, n[52] → 2, n[53] → 0,
  n[54] → 0, n[55] → 0, n[56] → 0, n[57] → 0, n[58] → 0, n[59] → 0, n[60] → 0,
  n[61] → 0, n[62] → 0, n[63] → 0, n[64] → 0, n[65] → 0, n[66] → 0, n[67] → 0,
  n[68] → 0, n[69] → 0, n[70] → 0, n[71] → 0, n[72] → 0, n[73] → 0, n[74] → 0,
  n[75] → 0, n[76] → 0, n[77] → 0, n[78] → 0, n[79] → 0, n[80] → 0, n[81] → 0,
  n[82] → 0, n[83] → 0, n[84] → 1, n[85] → 0, n[86] → 0, n[87] → 0, n[88] → 0,
  n[89] → 0, n[90] → 0, n[91] → 0, n[92] → 0, n[93] → 0, n[94] → 0} }

```

```
FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 && n[20] ≥ 0 &&
  n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 && n[26] ≥ 0 && n[27] ≥ 0 &&
  n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 && n[33] ≥ 0 &&
  n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 && n[39] ≥ 0 &&
  n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 && n[45] ≥ 0 &&
  n[46] ≥ 0 && n[47] ≥ 0 && n[48] ≥ 0 && n[49] ≥ 0 && n[50] ≥ 0 && n[51] ≥ 0 &&
  n[52] ≥ 0 && n[53] ≥ 0 && n[54] ≥ 0 && n[55] ≥ 0 && n[56] ≥ 0 && n[57] ≥ 0 &&
  n[58] ≥ 0 && n[59] ≥ 0 && n[60] ≥ 0 && n[61] ≥ 0 && n[62] ≥ 0 && n[63] ≥ 0 &&
  n[64] ≥ 0 && n[65] ≥ 0 && n[66] ≥ 0 && n[67] ≥ 0 && n[68] ≥ 0 && n[69] ≥ 0 &&
  n[70] ≥ 0 && n[71] ≥ 0 && n[72] ≥ 0 && n[73] ≥ 0 && n[74] ≥ 0 && n[75] ≥ 0 &&
  n[76] ≥ 0 && n[77] ≥ 0 && n[78] ≥ 0 && n[79] ≥ 0 && n[80] ≥ 0 && n[81] ≥ 0 &&
  n[82] ≥ 0 && n[83] ≥ 0 && n[84] ≥ 0 && n[85] ≥ 0 && n[86] ≥ 0 && n[87] ≥ 0 &&
  n[88] ≥ 0 && n[89] ≥ 0 && n[90] == 0 && n[91] ≥ 0 && n[92] ≥ 0 && n[93] ≥ 0 &&
  n[94] ≥ 0 && Array[n, 94].A10 == gpart[chi10], Array[n, 94], Integers]
```

```
{ {n[1] → 18, n[2] → 0, n[3] → 0, n[4] → 0, n[5] → 0, n[6] → 0, n[7] → 0,
  n[8] → 0, n[9] → 24, n[10] → 0, n[11] → 0, n[12] → 0, n[13] → 0, n[14] → 0,
  n[15] → 0, n[16] → 0, n[17] → 0, n[18] → 0, n[19] → 0, n[20] → 0,
  n[21] → 0, n[22] → 0, n[23] → 0, n[24] → 0, n[25] → 0, n[26] → 0,
  n[27] → 0, n[28] → 0, n[29] → 4, n[30] → 0, n[31] → 0, n[32] → 0,
  n[33] → 0, n[34] → 0, n[35] → 0, n[36] → 0, n[37] → 0, n[38] → 0, n[39] → 0,
  n[40] → 0, n[41] → 0, n[42] → 0, n[43] → 0, n[44] → 0, n[45] → 2, n[46] → 0,
  n[47] → 0, n[48] → 0, n[49] → 0, n[50] → 0, n[51] → 0, n[52] → 0, n[53] → 0,
  n[54] → 0, n[55] → 0, n[56] → 0, n[57] → 0, n[58] → 0, n[59] → 0, n[60] → 0,
  n[61] → 0, n[62] → 0, n[63] → 0, n[64] → 0, n[65] → 0, n[66] → 0, n[67] → 0,
  n[68] → 0, n[69] → 0, n[70] → 1, n[71] → 0, n[72] → 0, n[73] → 0, n[74] → 0,
  n[75] → 0, n[76] → 0, n[77] → 0, n[78] → 0, n[79] → 0, n[80] → 0, n[81] → 0,
  n[82] → 0, n[83] → 0, n[84] → 0, n[85] → 0, n[86] → 0, n[87] → 0, n[88] → 0,
  n[89] → 0, n[90] → 0, n[91] → 0, n[92] → 0, n[93] → 0, n[94] → 0 } }
```

```
list10[{{1, 9}}] * mu[chi10] // Factor
```

```
{ (-13 + x) (-11 + x) (-9 + x)10 (5 + x)31 (-25 869 + 18 293 x - 4970 x2 + 650 x3 - 41 x4 + x5),
  (-11 + x)2 (-9 + x)10 (5 + x)31 (95 - 20 x + x2) (-317 + 155 x - 23 x2 + x3) }
```

```
Array[m, 7].Transpose[A10]
```

```
{ 336 297 m[1] - 263 678 m[2] + 82 903 m[3] - 13 420 m[4] + 1183 m[5] - 54 m[6] + m[7],
  329 121 m[1] - 261 254 m[2] + 82 655 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7],
  328 705 m[1] - 261 222 m[2] + 82 655 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7],
  328 289 m[1] - 261 190 m[2] + 82 655 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7],
  330 161 m[1] - 261 542 m[2] + 82 671 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7],
  329 745 m[1] - 261 510 m[2] + 82 671 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7],
  329 809 m[1] - 261 510 m[2] + 82 671 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7],
  331 617 m[1] - 261 862 m[2] + 82 687 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7],
  331 265 m[1] - 261 830 m[2] + 82 687 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7],
  316 953 m[1] - 258 030 m[2] + 82 375 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7],
  318 825 m[1] - 258 382 m[2] + 82 391 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7],
```

318 409 m[1] - 258 350 m[2] + 82 391 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 320 697 m[1] - 258 734 m[2] + 82 407 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 320 281 m[1] - 258 702 m[2] + 82 407 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 319 865 m[1] - 258 670 m[2] + 82 407 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 319 929 m[1] - 258 670 m[2] + 82 407 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 322 569 m[1] - 259 086 m[2] + 82 423 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 322 153 m[1] - 259 054 m[2] + 82 423 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 322 217 m[1] - 259 054 m[2] + 82 423 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 321 737 m[1] - 259 022 m[2] + 82 423 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 321 801 m[1] - 259 022 m[2] + 82 423 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 321 385 m[1] - 258 990 m[2] + 82 423 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 324 025 m[1] - 259 406 m[2] + 82 439 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 324 089 m[1] - 259 406 m[2] + 82 439 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 323 609 m[1] - 259 374 m[2] + 82 439 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 323 673 m[1] - 259 374 m[2] + 82 439 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 323 257 m[1] - 259 342 m[2] + 82 439 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 323 321 m[1] - 259 342 m[2] + 82 439 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 322 905 m[1] - 259 310 m[2] + 82 439 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 325 193 m[1] - 259 694 m[2] + 82 455 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 308 529 m[1] - 255 510 m[2] + 82 127 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 310 401 m[1] - 255 862 m[2] + 82 143 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 310 049 m[1] - 255 830 m[2] + 82 143 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 312 273 m[1] - 256 214 m[2] + 82 159 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 311 857 m[1] - 256 182 m[2] + 82 159 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 311 921 m[1] - 256 182 m[2] + 82 159 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 311 505 m[1] - 256 150 m[2] + 82 159 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 314 145 m[1] - 256 566 m[2] + 82 175 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 313 729 m[1] - 256 534 m[2] + 82 175 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 313 793 m[1] - 256 534 m[2] + 82 175 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 313 857 m[1] - 256 534 m[2] + 82 175 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 313 313 m[1] - 256 502 m[2] + 82 175 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 313 377 m[1] - 256 502 m[2] + 82 175 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 313 441 m[1] - 256 502 m[2] + 82 175 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 313 025 m[1] - 256 470 m[2] + 82 175 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 316 017 m[1] - 256 918 m[2] + 82 191 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 315 601 m[1] - 256 886 m[2] + 82 191 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 315 665 m[1] - 256 886 m[2] + 82 191 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 315 729 m[1] - 256 886 m[2] + 82 191 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 315 249 m[1] - 256 854 m[2] + 82 191 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 315 313 m[1] - 256 854 m[2] + 82 191 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 314 897 m[1] - 256 822 m[2] + 82 191 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 317 889 m[1] - 257 270 m[2] + 82 207 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 317 537 m[1] - 257 238 m[2] + 82 207 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 317 601 m[1] - 257 238 m[2] + 82 207 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 317 185 m[1] - 257 206 m[2] + 82 207 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 316 833 m[1] - 257 174 m[2] + 82 207 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,
 319 121 m[1] - 257 558 m[2] + 82 223 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ,

$301\,977\,m[1] - 253\,342\,m[2] + 81\,895\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $303\,849\,m[1] - 253\,694\,m[2] + 81\,911\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $303\,433\,m[1] - 253\,662\,m[2] + 81\,911\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $303\,497\,m[1] - 253\,662\,m[2] + 81\,911\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $303\,561\,m[1] - 253\,662\,m[2] + 81\,911\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $305\,721\,m[1] - 254\,046\,m[2] + 81\,927\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $305\,305\,m[1] - 254\,014\,m[2] + 81\,927\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $305\,369\,m[1] - 254\,014\,m[2] + 81\,927\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $305\,433\,m[1] - 254\,014\,m[2] + 81\,927\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $304\,953\,m[1] - 253\,982\,m[2] + 81\,927\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $305\,017\,m[1] - 253\,982\,m[2] + 81\,927\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $307\,593\,m[1] - 254\,398\,m[2] + 81\,943\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $307\,241\,m[1] - 254\,366\,m[2] + 81\,943\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $307\,305\,m[1] - 254\,366\,m[2] + 81\,943\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $306\,889\,m[1] - 254\,334\,m[2] + 81\,943\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $306\,953\,m[1] - 254\,334\,m[2] + 81\,943\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $306\,537\,m[1] - 254\,302\,m[2] + 81\,943\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $309\,177\,m[1] - 254\,718\,m[2] + 81\,959\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $308\,825\,m[1] - 254\,686\,m[2] + 81\,959\,m[3] - 13\,388\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $295\,425\,m[1] - 251\,174\,m[2] + 81\,663\,m[3] - 13\,380\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $295\,073\,m[1] - 251\,142\,m[2] + 81\,663\,m[3] - 13\,380\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $295\,137\,m[1] - 251\,142\,m[2] + 81\,663\,m[3] - 13\,380\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $297\,297\,m[1] - 251\,526\,m[2] + 81\,679\,m[3] - 13\,380\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $296\,945\,m[1] - 251\,494\,m[2] + 81\,679\,m[3] - 13\,380\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $297\,009\,m[1] - 251\,494\,m[2] + 81\,679\,m[3] - 13\,380\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $296\,593\,m[1] - 251\,462\,m[2] + 81\,679\,m[3] - 13\,380\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $296\,657\,m[1] - 251\,462\,m[2] + 81\,679\,m[3] - 13\,380\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $298\,881\,m[1] - 251\,846\,m[2] + 81\,695\,m[3] - 13\,380\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $298\,529\,m[1] - 251\,814\,m[2] + 81\,695\,m[3] - 13\,380\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $298\,177\,m[1] - 251\,782\,m[2] + 81\,695\,m[3] - 13\,380\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $300\,465\,m[1] - 252\,166\,m[2] + 81\,711\,m[3] - 13\,380\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $287\,001\,m[1] - 248\,654\,m[2] + 81\,415\,m[3] - 13\,372\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $288\,585\,m[1] - 248\,974\,m[2] + 81\,431\,m[3] - 13\,372\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $288\,233\,m[1] - 248\,942\,m[2] + 81\,431\,m[3] - 13\,372\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $288\,297\,m[1] - 248\,942\,m[2] + 81\,431\,m[3] - 13\,372\,m[4] + 1183\,m[5] - 54\,m[6] + m[7],$
 $290\,169\,m[1] - 249\,294\,m[2] + 81\,447\,m[3] - 13\,372\,m[4] + 1183\,m[5] - 54\,m[6] + m[7] \}$

Array[m, 7].gpart[chi10]

$16\,228\,969\,m[1] - 12\,834\,702\,m[2] + 4\,052\,791\,m[3] -$
 $657\,244\,m[4] + 57\,967\,m[5] - 2646\,m[6] + 49\,m[7]$

FindInstance[16 228 969 m[1] - 12 834 702 m[2] +

4 052 791 m[3] - 657 244 m[4] + 57 967 m[5] - 2646 m[6] + 49 m[7] < 0 &&

336 297 m[1] - 263 678 m[2] + 82 903 m[3] - 13 420 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&

329 121 m[1] - 261 254 m[2] + 82 655 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&

328 705 m[1] - 261 222 m[2] + 82 655 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&

328 289 m[1] - 261 190 m[2] + 82 655 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&

330 161 m[1]	- 261 542 m[2]	+ 82 671 m[3]	- 13 412 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
329 745 m[1]	- 261 510 m[2]	+ 82 671 m[3]	- 13 412 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
329 809 m[1]	- 261 510 m[2]	+ 82 671 m[3]	- 13 412 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
331 617 m[1]	- 261 862 m[2]	+ 82 687 m[3]	- 13 412 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
331 265 m[1]	- 261 830 m[2]	+ 82 687 m[3]	- 13 412 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
316 953 m[1]	- 258 030 m[2]	+ 82 375 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
318 825 m[1]	- 258 382 m[2]	+ 82 391 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
318 409 m[1]	- 258 350 m[2]	+ 82 391 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
320 697 m[1]	- 258 734 m[2]	+ 82 407 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
320 281 m[1]	- 258 702 m[2]	+ 82 407 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
319 865 m[1]	- 258 670 m[2]	+ 82 407 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
319 929 m[1]	- 258 670 m[2]	+ 82 407 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
322 569 m[1]	- 259 086 m[2]	+ 82 423 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
322 153 m[1]	- 259 054 m[2]	+ 82 423 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
322 217 m[1]	- 259 054 m[2]	+ 82 423 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
321 737 m[1]	- 259 022 m[2]	+ 82 423 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
321 801 m[1]	- 259 022 m[2]	+ 82 423 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
321 385 m[1]	- 258 990 m[2]	+ 82 423 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
324 025 m[1]	- 259 406 m[2]	+ 82 439 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
324 089 m[1]	- 259 406 m[2]	+ 82 439 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
323 609 m[1]	- 259 374 m[2]	+ 82 439 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
323 673 m[1]	- 259 374 m[2]	+ 82 439 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
323 257 m[1]	- 259 342 m[2]	+ 82 439 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
323 321 m[1]	- 259 342 m[2]	+ 82 439 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
322 905 m[1]	- 259 310 m[2]	+ 82 439 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
325 193 m[1]	- 259 694 m[2]	+ 82 455 m[3]	- 13 404 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
308 529 m[1]	- 255 510 m[2]	+ 82 127 m[3]	- 13 396 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
310 401 m[1]	- 255 862 m[2]	+ 82 143 m[3]	- 13 396 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
310 049 m[1]	- 255 830 m[2]	+ 82 143 m[3]	- 13 396 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
312 273 m[1]	- 256 214 m[2]	+ 82 159 m[3]	- 13 396 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
311 857 m[1]	- 256 182 m[2]	+ 82 159 m[3]	- 13 396 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
311 921 m[1]	- 256 182 m[2]	+ 82 159 m[3]	- 13 396 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
311 505 m[1]	- 256 150 m[2]	+ 82 159 m[3]	- 13 396 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
314 145 m[1]	- 256 566 m[2]	+ 82 175 m[3]	- 13 396 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
313 729 m[1]	- 256 534 m[2]	+ 82 175 m[3]	- 13 396 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
313 793 m[1]	- 256 534 m[2]	+ 82 175 m[3]	- 13 396 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
313 857 m[1]	- 256 534 m[2]	+ 82 175 m[3]	- 13 396 m[4]	+ 1183 m[5]	- 54 m[6]	+ m[7]	≥ 0 &&
313 313 m[1]	- 256 502 m[2]	+ 82 175 m[3]	- 13 396 m[4]</				

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314 897 m[1] - 256 822 m[2] + 82 191 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
317 889 m[1] - 257 270 m[2] + 82 207 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
317 537 m[1] - 257 238 m[2] + 82 207 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
317 601 m[1] - 257 238 m[2] + 82 207 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
317 185 m[1] - 257 206 m[2] + 82 207 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
316 833 m[1] - 257 174 m[2] + 82 207 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
319 121 m[1] - 257 558 m[2] + 82 223 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
301 977 m[1] - 253 342 m[2] + 81 895 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
303 849 m[1] - 253 694 m[2] + 81 911 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
303 433 m[1] - 253 662 m[2] + 81 911 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
303 497 m[1] - 253 662 m[2] + 81 911 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
303 561 m[1] - 253 662 m[2] + 81 911 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
305 721 m[1] - 254 046 m[2] + 81 927 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
305 305 m[1] - 254 014 m[2] + 81 927 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
305 369 m[1] - 254 014 m[2] + 81 927 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
305 433 m[1] - 254 014 m[2] + 81 927 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
304 953 m[1] - 253 982 m[2] + 81 927 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
305 017 m[1] - 253 982 m[2] + 81 927 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
307 593 m[1] - 254 398 m[2] + 81 943 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
307 241 m[1] - 254 366 m[2] + 81 943 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
307 305 m[1] - 254 366 m[2] + 81 943 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
306 889 m[1] - 254 334 m[2] + 81 943 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
306 953 m[1] - 254 334 m[2] + 81 943 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
306 537 m[1] - 254 302 m[2] + 81 943 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
309 177 m[1] - 254 718 m[2] + 81 959 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
308 825 m[1] - 254 686 m[2] + 81 959 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
295 425 m[1] - 251 174 m[2] + 81 663 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
295 073 m[1] - 251 142 m[2] + 81 663 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
295 137 m[1] - 251 142 m[2] + 81 663 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
297 297 m[1] - 251 526 m[2] + 81 679 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
296 945 m[1] - 251 494 m[2] + 81 679 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
297 009 m[1] - 251 494 m[2] + 81 679 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
296 593 m[1] - 251 462 m[2] + 81 679 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
296 657 m[1] - 251 462 m[2] + 81 679 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
298 881 m[1] - 251 846 m[2] + 81 695 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
298 529 m[1] - 251 814 m[2] + 81 695 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
298 177 m[1] - 251 782 m[2] + 81 695 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
300 465 m[1] - 252 166 m[2] + 81 711 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
287 001 m[1] - 248 654 m[2] + 81 415 m[3] - 13 372 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
288 585 m[1] - 248 974 m[2] + 81 431 m[3] - 13 372 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
288 233 m[1] - 248 942 m[2] + 81 431 m[3] - 13 372 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
288 297 m[1] - 248 942 m[2] + 81 431 m[3] - 13 372 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
290 169 m[1] - 249 294 m[2] + 81 447 m[3] - 13 372 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0,
Array[m, 7], Integers]
{}

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FindInstance[16 228 969 m[1] - 12 834 702 m[2] +
  4 052 791 m[3] - 657 244 m[4] + 57 967 m[5] - 2646 m[6] + 49 m[7] < 0 &&
  336 297 m[1] - 263 678 m[2] + 82 903 m[3] - 13 420 m[4] + 1183 m[5] - 54 m[6] + m[7] < 0 &&
  329 121 m[1] - 261 254 m[2] + 82 655 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  328 705 m[1] - 261 222 m[2] + 82 655 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  328 289 m[1] - 261 190 m[2] + 82 655 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  330 161 m[1] - 261 542 m[2] + 82 671 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  329 745 m[1] - 261 510 m[2] + 82 671 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  329 809 m[1] - 261 510 m[2] + 82 671 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  331 617 m[1] - 261 862 m[2] + 82 687 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  331 265 m[1] - 261 830 m[2] + 82 687 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  316 953 m[1] - 258 030 m[2] + 82 375 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  318 825 m[1] - 258 382 m[2] + 82 391 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  318 409 m[1] - 258 350 m[2] + 82 391 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  320 697 m[1] - 258 734 m[2] + 82 407 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  320 281 m[1] - 258 702 m[2] + 82 407 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  319 865 m[1] - 258 670 m[2] + 82 407 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  319 929 m[1] - 258 670 m[2] + 82 407 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  322 569 m[1] - 259 086 m[2] + 82 423 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  322 153 m[1] - 259 054 m[2] + 82 423 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  322 217 m[1] - 259 054 m[2] + 82 423 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  321 737 m[1] - 259 022 m[2] + 82 423 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  321 801 m[1] - 259 022 m[2] + 82 423 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  321 385 m[1] - 258 990 m[2] + 82 423 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  324 025 m[1] - 259 406 m[2] + 82 439 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  324 089 m[1] - 259 406 m[2] + 82 439 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  323 609 m[1] - 259 374 m[2] + 82 439 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  323 673 m[1] - 259 374 m[2] + 82 439 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  323 257 m[1] - 259 342 m[2] + 82 439 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  323 321 m[1] - 259 342 m[2] + 82 439 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  322 905 m[1] - 259 310 m[2] + 82 439 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  325 193 m[1] - 259 694 m[2] + 82 455 m[3] - 13 404 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  308 529 m[1] - 255 510 m[2] + 82 127 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  310 401 m[1] - 255 862 m[2] + 82 143 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  310 049 m[1] - 255 830 m[2] + 82 143 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  312 273 m[1] - 256 214 m[2] + 82 159 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  311 857 m[1] - 256 182 m[2] + 82 159 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  311 921 m[1] - 256 182 m[2] + 82 159 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  311 505 m[1] - 256 150 m[2] + 82 159 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  314 145 m[1] - 256 566 m[2] + 82 175 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  313 729 m[1] - 256 534 m[2] + 82 175 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  313 793 m[1] - 256 534 m[2] + 82 175 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  313 857 m[1] - 256 534 m[2] + 82 175 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
  313 313 m[1] - 256 502 m[2] + 82 175 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&

```



```

287 001 m[1] - 248 654 m[2] + 81 415 m[3] - 13 372 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
288 585 m[1] - 248 974 m[2] + 81 431 m[3] - 13 372 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
288 233 m[1] - 248 942 m[2] + 81 431 m[3] - 13 372 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
288 297 m[1] - 248 942 m[2] + 81 431 m[3] - 13 372 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
290 169 m[1] - 249 294 m[2] + 81 447 m[3] - 13 372 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0,
Array[m, 7], Integers]
{{m[1] → 2194, m[2] → 11 854, m[3] → 28 753, m[4] → 0, m[5] → 0, m[6] → 0, m[7] → 0}}

Array[m, 7] /.
{m[1] → 2194, m[2] → 11 854, m[3] → 28 753, m[4] → 0, m[5] → 0, m[6] → 0, m[7] → 0}
{2194, 11 854, 28 753, 0, 0, 0, 0}

GCD[2194, 11 854, 28 753, 0, 0, 0, 0]
1

Reverse[{2194, 11 854, 28 753, 0, 0, 0, 0}]
{0, 0, 0, 0, 28 753, 11 854, 2194}

{2194, 11 854, 28 753, 0, 0, 0, 0}.gpart[chi10]
-6 299 899

{2194, 11 854, 28 753, 0, 0, 0, 0}.Transpose[A10]
{-4 093 435, 1 765 773, 1 232 397, 699 021, 1 093 629, 560 253, 700 669, 954 861,
561 901, 5 235 637, 5 630 245, 5 096 869, 6 024 853, 5 491 477, 4 958 101, 5 098 517,
6 419 461, 5 886 085, 6 026 501, 5 352 709, 5 493 125, 4 959 749, 6 280 693, 6 421 109,
5 747 317, 5 887 733, 5 354 357, 5 494 773, 4 961 397, 5 889 381, 9 494 717,
9 889 325, 9 496 365, 10 283 933, 9 750 557, 9 890 973, 9 357 597, 10 678 541,
10 145 165, 10 285 581, 10 425 997, 9 611 789, 9 752 205, 9 892 621, 9 359 245,
11 073 149, 10 539 773, 10 680 189, 10 820 605, 10 146 813, 10 287 229, 9 753 853,
11 467 757, 11 074 797, 11 215 213, 10 681 837, 10 288 877, 11 216 861, 14 148 405,
14 543 013, 14 009 637, 14 150 053, 14 290 469, 14 937 621, 14 404 245, 14 544 661,
14 685 077, 14 011 285, 14 151 701, 15 332 229, 14 939 269, 15 079 685, 14 546 309,
14 686 725, 14 153 349, 15 474 293, 15 081 333, 18 802 093, 18 409 133, 18 549 549,
19 196 701, 18 803 741, 18 944 157, 18 410 781, 18 551 197, 19 338 765, 18 945 805,
18 552 845, 19 480 829, 23 061 173, 23 203 237, 22 810 277, 22 950 693, 23 345 301}

FindInstance[16 228 969 m[1] - 12 834 702 m[2] +
4 052 791 m[3] - 657 244 m[4] + 57 967 m[5] - 2646 m[6] + 49 m[7] < 0 &&
336 297 m[1] - 263 678 m[2] + 82 903 m[3] - 13 420 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
329 121 m[1] - 261 254 m[2] + 82 655 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
328 705 m[1] - 261 222 m[2] + 82 655 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
328 289 m[1] - 261 190 m[2] + 82 655 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
330 161 m[1] - 261 542 m[2] + 82 671 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
329 745 m[1] - 261 510 m[2] + 82 671 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
329 809 m[1] - 261 510 m[2] + 82 671 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
331 617 m[1] - 261 862 m[2] + 82 687 m[3] - 13 412 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&

```

3121265	m[1]	-	261830	m[2]	+	82687	m[3]	-	13412	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	<	0	&&
316953	m[1]	-	258030	m[2]	+	82375	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
318825	m[1]	-	258382	m[2]	+	82391	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
318409	m[1]	-	258350	m[2]	+	82391	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
320697	m[1]	-	258734	m[2]	+	82407	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
320281	m[1]	-	258702	m[2]	+	82407	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
319865	m[1]	-	258670	m[2]	+	82407	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
319929	m[1]	-	258670	m[2]	+	82407	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
322569	m[1]	-	259086	m[2]	+	82423	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
322153	m[1]	-	259054	m[2]	+	82423	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
322217	m[1]	-	259054	m[2]	+	82423	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
321737	m[1]	-	259022	m[2]	+	82423	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
321801	m[1]	-	259022	m[2]	+	82423	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
321385	m[1]	-	258990	m[2]	+	82423	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
324025	m[1]	-	259406	m[2]	+	82439	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
324089	m[1]	-	259406	m[2]	+	82439	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
323609	m[1]	-	259374	m[2]	+	82439	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
323673	m[1]	-	259374	m[2]	+	82439	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
323257	m[1]	-	259342	m[2]	+	82439	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
323321	m[1]	-	259342	m[2]	+	82439	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
322905	m[1]	-	259310	m[2]	+	82439	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
325193	m[1]	-	259694	m[2]	+	82455	m[3]	-	13404	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
308529	m[1]	-	255510	m[2]	+	82127	m[3]	-	13396	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
310401	m[1]	-	255862	m[2]	+	82143	m[3]	-	13396	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
310049	m[1]	-	255830	m[2]	+	82143	m[3]	-	13396	m[4]	+	1183	m[5]	-	54	m[6]	+	m[7]	≥	0	&&
312273	m[1]	-	256214	m[2]	+	82159	m[3]	-</													

```

317 185 m[1] - 257 206 m[2] + 82 207 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
316 833 m[1] - 257 174 m[2] + 82 207 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
319 121 m[1] - 257 558 m[2] + 82 223 m[3] - 13 396 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
301 977 m[1] - 253 342 m[2] + 81 895 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
303 849 m[1] - 253 694 m[2] + 81 911 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
303 433 m[1] - 253 662 m[2] + 81 911 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
303 497 m[1] - 253 662 m[2] + 81 911 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
303 561 m[1] - 253 662 m[2] + 81 911 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
305 721 m[1] - 254 046 m[2] + 81 927 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
305 305 m[1] - 254 014 m[2] + 81 927 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
305 369 m[1] - 254 014 m[2] + 81 927 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
305 433 m[1] - 254 014 m[2] + 81 927 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
304 953 m[1] - 253 982 m[2] + 81 927 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
305 017 m[1] - 253 982 m[2] + 81 927 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
307 593 m[1] - 254 398 m[2] + 81 943 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
307 241 m[1] - 254 366 m[2] + 81 943 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
307 305 m[1] - 254 366 m[2] + 81 943 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
306 889 m[1] - 254 334 m[2] + 81 943 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
306 953 m[1] - 254 334 m[2] + 81 943 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
306 537 m[1] - 254 302 m[2] + 81 943 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
309 177 m[1] - 254 718 m[2] + 81 959 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
308 825 m[1] - 254 686 m[2] + 81 959 m[3] - 13 388 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
295 425 m[1] - 251 174 m[2] + 81 663 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
295 073 m[1] - 251 142 m[2] + 81 663 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
295 137 m[1] - 251 142 m[2] + 81 663 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
297 297 m[1] - 251 526 m[2] + 81 679 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
296 945 m[1] - 251 494 m[2] + 81 679 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
297 009 m[1] - 251 494 m[2] + 81 679 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
296 593 m[1] - 251 462 m[2] + 81 679 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
296 657 m[1] - 251 462 m[2] + 81 679 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
298 881 m[1] - 251 846 m[2] + 81 695 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
298 529 m[1] - 251 814 m[2] + 81 695 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
298 177 m[1] - 251 782 m[2] + 81 695 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
300 465 m[1] - 252 166 m[2] + 81 711 m[3] - 13 380 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
287 001 m[1] - 248 654 m[2] + 81 415 m[3] - 13 372 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
288 585 m[1] - 248 974 m[2] + 81 431 m[3] - 13 372 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
288 233 m[1] - 248 942 m[2] + 81 431 m[3] - 13 372 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
288 297 m[1] - 248 942 m[2] + 81 431 m[3] - 13 372 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0 &&
290 169 m[1] - 249 294 m[2] + 81 447 m[3] - 13 372 m[4] + 1183 m[5] - 54 m[6] + m[7] ≥ 0,
Array[m, 7], Integers]
{ {m[1] → 22 882, m[2] → 173 878,
  m[3] → 1 116 206, m[4] → 4 052 423, m[5] → 0, m[6] → 0, m[7] → 0} }

Array[m, 7] /. {m[1] → 22 882, m[2] → 173 878,
  m[3] → 1 116 206, m[4] → 4 052 423, m[5] → 0, m[6] → 0, m[7] → 0}
{22 882, 173 878, 1 116 206, 4 052 423, 0, 0, 0}

```

```
GCD[22 882, 173 878, 1 116 206, 4 052 423, 0, 0, 0]
```

```
1
```

```
Reverse[{22 882, 173 878, 1 116 206, 4 052 423, 0, 0, 0}]
```

```
{0, 0, 0, 4 052 423, 1 116 206, 173 878, 22 882}
```

```
{22 882, 173 878, 1 116 206, 4 052 423, 0, 0, 0}.gpart[chi10]
```

```
-2 116 964
```

```
{22 882, 173 878, 1 116 206, 4 052 423, 0, 0, 0}.Transpose[A10]
```

```
{654 028, 13 533 364, 9 578 548, 5 623 732, 5 113 076, 1 158 260, 2 622 708, 647 604,
-1 842 764, 15 569 564, 15 058 908, 11 104 092, 14 548 252, 10 593 436, 6 638 620,
8 103 068, 14 037 596, 10 082 780, 11 547 228, 6 127 964, 7 592 412, 3 637 596, 9 572 124,
11 036 572, 5 617 308, 7 081 756, 3 126 940, 4 591 388, 636 572, 4 080 732, 16 584 452,
16 073 796, 13 583 428, 15 563 140, 11 608 324, 13 072 772, 9 117 956, 15 052 484,
11 097 668, 12 562 116, 14 026 564, 7 142 852, 8 607 300, 10 071 748, 6 116 932,
14 541 828, 10 587 012, 12 051 460, 13 515 908, 8 096 644, 9 561 092, 5 606 276,
14 031 172, 11 540 804, 13 005 252, 9 050 436, 6 560 068, 10 004 228, 17 088 684,
16 578 028, 12 623 212, 14 087 660, 15 552 108, 16 067 372, 12 112 556, 13 577 004,
15 041 452, 9 622 188, 11 086 636, 15 556 716, 13 066 348, 14 530 796, 10 575 980,
12 040 428, 8 085 612, 14 020 140, 11 529 772, 17 592 916, 15 102 548, 16 566 996,
17 082 260, 14 591 892, 16 056 340, 12 101 524, 13 565 972, 15 545 684, 13 055 316,
10 564 948, 14 009 108, 18 607 804, 17 071 228, 14 580 860, 16 045 308, 15 534 652}
```

```
anglesq10 = anglesquaredmat[chi10, list10] // FullSimplify;
```

```
Dimensions[anglesq10]
```

```
{94, 7}
```

```
angle10 = Sqrt[anglesq10] // FullSimplify;
```

```
angle10 // MatrixForm
```

$$\begin{pmatrix} \sqrt{\frac{10987}{4193}} & \text{Root}[-1 + 607 \sqrt{11}^2 - 90226 \sqrt{11}^4 + 3840788 \sqrt{11}^6, 6] & \text{Root}[-1 + 607 \sqrt{11}^2 - 90226 \sqrt{11}^4 + 3840788 \sqrt{11}^6, 6] \\ \sqrt{\frac{1563}{599}} & \text{Root}[-4 + 1600 \sqrt{11}^2 - 162361 \sqrt{11}^4 + 960197 \sqrt{11}^6, 5] & \text{Root}[-4 + 1600 \sqrt{11}^2 - 162361 \sqrt{11}^4 + 960197 \sqrt{11}^6, 5] \\ \sqrt{\frac{2735}{4193}} & \text{Root}[-109 + 14215 \sqrt{11}^2 - 512502 \sqrt{11}^4 + 3840788 \sqrt{11}^6, 5] & \text{Root}[-109 + 14215 \sqrt{11}^2 - 512502 \sqrt{11}^4 + 3840788 \sqrt{11}^6, 5] \\ \sqrt{\frac{10939}{4193}} & \text{Root}[-31 + 2996 \sqrt{11}^2 - 93890 \sqrt{11}^4 + 960197 \sqrt{11}^6, 5] & \text{Root}[-31 + 2996 \sqrt{11}^2 - 93890 \sqrt{11}^4 + 960197 \sqrt{11}^6, 5] \\ \sqrt{\frac{5473}{8386}} & \text{Root}[-37 + 4510 \sqrt{11}^2 - 127782 \sqrt{11}^4 + 960197 \sqrt{11}^6, 4] & \text{Root}[-37 + 4510 \sqrt{11}^2 - 127782 \sqrt{11}^4 + 960197 \sqrt{11}^6, 4] \\ \sqrt{\frac{10945}{4193}} & \text{Root}[-107 + 11257 \sqrt{11}^2 - 374186 \sqrt{11}^4 + 3840788 \sqrt{11}^6, 5] & \text{Root}[-107 + 11257 \sqrt{11}^2 - 374186 \sqrt{11}^4 + 3840788 \sqrt{11}^6, 5] \\ \sqrt{\frac{49253}{8386}} & \text{Root}[-59 + 18899 \sqrt{11}^2 - 1069888 \sqrt{11}^4 + 15363152 \sqrt{11}^6, 5] & \text{Root}[-59 + 18899 \sqrt{11}^2 - 1069888 \sqrt{11}^4 + 15363152 \sqrt{11}^6, 5] \\ 37 \sqrt{\frac{2}{4193}} & \text{Root}[-7 + 2521 \sqrt{11}^2 - 72822 \sqrt{11}^4 + 548684 \sqrt{11}^6, 4] & \text{Root}[-7 + 2521 \sqrt{11}^2 - 72822 \sqrt{11}^4 + 548684 \sqrt{11}^6, 4] \\ \sqrt{\frac{55}{4193}} & & \end{pmatrix}$$

$\sqrt[3]{\frac{599}{3}}$	$\text{Root}[-23 + 3351 \#1^2 - 152056 \#1^4 + 2194736 \#1^6 \&, 4]$	$\text{Root}[-23 + 335$
$\sqrt{\frac{777}{1198}}$	$\text{Root}[-4 + 4106 \#1^2 - 131675 \#1^4 + 960197 \#1^6 \&, 6]$	$\text{Root}[-4 + 410$
$\sqrt{\frac{1555}{599}}$	$\text{Root}[-101 + 8287 \#1^2 - 165567 \#1^4 + 960197 \#1^6 \&, 5]$	$\text{Root}[-101 + 82$
$\sqrt{\frac{2721}{4193}}$	$\text{Root}[-239 + 20233 \#1^2 - 525326 \#1^4 + 3840788 \#1^6 \&, 6]$	$\text{Root}[-239 + 202$
$\sqrt{\frac{389}{599}}$	$\text{Root}[-188 + 11178 \#1^2 - 199459 \#1^4 + 960197 \#1^6 \&, 5]$	$\text{Root}[-188 + 11$
$\sqrt{\frac{10891}{4193}}$	$\text{Root}[-689 + 37291 \#1^2 - 660894 \#1^4 + 3840788 \#1^6 \&, 5]$	$\text{Root}[-689 + 372$
$33 \sqrt{\frac{5}{8386}}$	$\text{Root}[-37 + 4956 \#1^2 - 130988 \#1^4 + 960197 \#1^6 \&, 6]$	$\text{Root}[-37 + 49$
$\sqrt{\frac{98011}{4193}}$	$\text{Root}[-269 + 46085 \#1^2 - 1668952 \#1^4 + 15363152 \#1^6 \&, 6]$	$\text{Root}[-269 + 4608$
$3 \sqrt{\frac{173}{599}}$	$\text{Root}[-169 + 12779 \#1^2 - 233351 \#1^4 + 960197 \#1^6 \&, 4]$	$\text{Root}[-169 + 12$
$\sqrt{\frac{5449}{8386}}$	$\text{Root}[-907 + 49189 \#1^2 - 796462 \#1^4 + 3840788 \#1^6 \&, 4]$	$\text{Root}[-907 + 491$
$\sqrt{\frac{98083}{4193}}$	$\text{Root}[-967 + 101511 \#1^2 - 2758992 \#1^4 + 15363152 \#1^6 \&, 5]$	$\text{Root}[-967 + 1015$
$\sqrt{\frac{10897}{4193}}$	$\text{Root}[-173 + 9304 \#1^2 - 164880 \#1^4 + 960197 \#1^6 \&, 4]$	$\text{Root}[-173 + 93$
$\sqrt{\frac{49037}{8386}}$	$\text{Root}[-1277 + 96805 \#1^2 - 2211224 \#1^4 + 15363152 \#1^6 \&, 5]$	$\text{Root}[-1277 + 968$
$\sqrt{\frac{98065}{4193}}$	$\text{Root}[-443 + 51915 \#1^2 - 1663456 \#1^4 + 15363152 \#1^6 \&, 6]$	$\text{Root}[-443 + 5191$
$\sqrt{\frac{10905}{4193}}$	$\text{Root}[-509 + 55927 \#1^2 - 932030 \#1^4 + 3840788 \#1^6 \&, 4]$	$\text{Root}[-509 + 559$
$\sqrt{\frac{49073}{8386}}$	$\text{Root}[-607 + 109615 \#1^2 - 3301264 \#1^4 + 15363152 \#1^6 \&, 4]$	$\text{Root}[-607 + 1096$
$\sqrt{\frac{2726}{4193}}$	$\text{Root}[-29 + 1766 \#1^2 - 28396 \#1^4 + 137171 \#1^6 \&, 4]$	$\text{Root}[-29 + 17$
$\sqrt{\frac{98137}{4193}}$	$\text{Root}[-1613 + 126885 \#1^2 - 2753496 \#1^4 + 15363152 \#1^6 \&, 4]$	$\text{Root}[-1613 + 1268$
$2 \sqrt{\frac{6133}{4193}}$	$\text{Root}[-229 + 14853 \#1^2 - 315104 \#1^4 + 2194736 \#1^6 \&, 4]$	$\text{Root}[-229 + 148$
$\sqrt{\frac{98129}{4193}}$	$\text{Root}[-53 + 11999 \#1^2 - 444718 \#1^4 + 3840788 \#1^6 \&, 5]$	$\text{Root}[-53 + 119$
$\sqrt{\frac{24530}{4193}}$	$\text{Root}[-7 + 1003 \#1^2 - 43968 \#1^4 + 548684 \#1^6 \&, 6]$	$\text{Root}[-7 + 10$
$38 \sqrt{\frac{17}{4193}}$	$\text{Root}[-13 + 2163 \#1^2 - 82898 \#1^4 + 548684 \#1^6 \&, 4]$	$\text{Root}[-13 + 21$
$\sqrt{\frac{1547}{599}}$	$\text{Root}[-64 + 6392 \#1^2 - 168773 \#1^4 + 960197 \#1^6 \&, 6]$	$\text{Root}[-64 + 63$
$3 \sqrt{\frac{43}{599}}$	$\text{Root}[-283 + 13407 \#1^2 - 202665 \#1^4 + 960197 \#1^6 \&, 6]$	$\text{Root}[-283 + 13$
$\sqrt{\frac{24379}{4193}}$	$\text{Root}[-439 + 61615 \#1^2 - 2268016 \#1^4 + 15363152 \#1^6 \&, 6]$	$\text{Root}[-439 + 6161$
$\sqrt{\frac{1549}{599}}$	$\text{Root}[-508 + 19132 \#1^2 - 236557 \#1^4 + 960197 \#1^6 \&, 5]$	$\text{Root}[-508 + 19$
$\sqrt{\frac{5421}{8386}}$	$\text{Root}[-1109 + 53871 \#1^2 - 809286 \#1^4 + 3840788 \#1^6 \&, 6]$	$\text{Root}[-1109 + 53$
$\sqrt{\frac{97579}{8386}}$		

$\sqrt[6]{\frac{4193}{6}}$	Root $[-2543 + 156\,343 \#1^2 - 2\,810\,288 \#1^4 + 15\,363\,152 \#1^6 \&, 6]$	Root $[-2543 + 156\,343 \#1^2 - 2\,810\,288 \#1^4 + 15\,363\,152 \#1^6 \&, 6]$
$\sqrt[3]{\frac{\sqrt{48\,785}}{8386}}$	Root $[-173 + 68\,717 \#1^2 - 2\,262\,520 \#1^4 + 15\,363\,152 \#1^6 \&, 6]$	Root $[-173 + 68\,717 \#1^2 - 2\,262\,520 \#1^4 + 15\,363\,152 \#1^6 \&, 6]$
$5 \sqrt{\frac{31}{1198}}$	Root $[-643 + 23\,567 \#1^2 - 270\,449 \#1^4 + 960\,197 \#1^6 \&, 4]$	Root $[-643 + 23\,567 \#1^2 - 270\,449 \#1^4 + 960\,197 \#1^6 \&, 4]$
$\sqrt[2]{\frac{\sqrt{10\,849}}{4193}}$	Root $[-2087 + 77\,105 \#1^2 - 944\,854 \#1^4 + 3\,840\,788 \#1^6 \&, 4]$	Root $[-2087 + 77\,105 \#1^2 - 944\,854 \#1^4 + 3\,840\,788 \#1^6 \&, 4]$
$\sqrt[3]{\frac{\sqrt{48\,821}}{8386}}$	Root $[-4999 + 230\,431 \#1^2 - 3\,352\,560 \#1^4 + 15\,363\,152 \#1^6 \&, 5]$	Root $[-4999 + 230\,431 \#1^2 - 3\,352\,560 \#1^4 + 15\,363\,152 \#1^6 \&, 5]$
$\sqrt[6]{\frac{\sqrt{13\,949}}{599}}$	Root $[-1 + 31\,047 \#1^2 - 731\,426 \#1^4 + 3\,840\,788 \#1^6 \&, 5]$	Root $[-1 + 31\,047 \#1^2 - 731\,426 \#1^4 + 3\,840\,788 \#1^6 \&, 5]$
$2 \sqrt{\frac{678}{4193}}$	Root $[-27 + 1782 \#1^2 - 28\,854 \#1^4 + 137\,171 \#1^6 \&, 5]$	Root $[-27 + 1782 \#1^2 - 28\,854 \#1^4 + 137\,171 \#1^6 \&, 5]$
$\sqrt[6]{\frac{\sqrt{97\,633}}{4193}}$	Root $[-3133 + 164\,781 \#1^2 - 2\,804\,792 \#1^4 + 15\,363\,152 \#1^6 \&, 6]$	Root $[-3133 + 164\,781 \#1^2 - 2\,804\,792 \#1^4 + 15\,363\,152 \#1^6 \&, 6]$
$\sqrt[3]{\frac{\sqrt{48\,817}}{8386}}$	Root $[-191 + 25\,431 \#1^2 - 594\,484 \#1^4 + 3\,840\,788 \#1^6 \&, 6]$	Root $[-191 + 25\,431 \#1^2 - 594\,484 \#1^4 + 3\,840\,788 \#1^6 \&, 6]$
$5 \sqrt[6]{\frac{3905}{6}}$	Root $[-47 + 9769 \#1^2 - 457\,542 \#1^4 + 3\,840\,788 \#1^6 \&, 6]$	Root $[-47 + 9769 \#1^2 - 457\,542 \#1^4 + 3\,840\,788 \#1^6 \&, 6]$
$\sqrt[2]{\frac{\sqrt{1551}}{599}}$	Root $[-592 + 26\,712 \#1^2 - 304\,341 \#1^4 + 960\,197 \#1^6 \&, 4]$	Root $[-592 + 26\,712 \#1^2 - 304\,341 \#1^4 + 960\,197 \#1^6 \&, 4]$
$\sqrt[4]{\frac{2714}{4193}}$	Root $[-359 + 13\,597 \#1^2 - 154\,346 \#1^4 + 548\,684 \#1^6 \&, 4]$	Root $[-359 + 13\,597 \#1^2 - 154\,346 \#1^4 + 548\,684 \#1^6 \&, 4]$
$\sqrt[6]{\frac{\sqrt{97\,785}}{4193}}$	Root $[-6271 + 283\,879 \#1^2 - 3\,894\,832 \#1^4 + 15\,363\,152 \#1^6 \&, 4]$	Root $[-6271 + 283\,879 \#1^2 - 3\,894\,832 \#1^4 + 15\,363\,152 \#1^6 \&, 4]$
$\sqrt[3]{\frac{\sqrt{6979}}{1198}}$	Root $[-443 + 39\,697 \#1^2 - 866\,994 \#1^4 + 3\,840\,788 \#1^6 \&, 5]$	Root $[-443 + 39\,697 \#1^2 - 866\,994 \#1^4 + 3\,840\,788 \#1^6 \&, 5]$
$2 \sqrt[3]{\frac{\sqrt{6106}}{4193}}$	Root $[-811 + 34\,315 \#1^2 - 478\,152 \#1^4 + 2\,194\,736 \#1^6 \&, 4]$	Root $[-811 + 34\,315 \#1^2 - 478\,152 \#1^4 + 2\,194\,736 \#1^6 \&, 4]$
$\sqrt[6]{\frac{\sqrt{97\,697}}{4193}}$	Root $[-607 + 39\,575 \#1^2 - 730\,052 \#1^4 + 3\,840\,788 \#1^6 \&, 5]$	Root $[-607 + 39\,575 \#1^2 - 730\,052 \#1^4 + 3\,840\,788 \#1^6 \&, 5]$
$\sqrt[3]{\frac{\sqrt{24\,422}}{4193}}$	Root $[-67 + 4201 \#1^2 - 84\,730 \#1^4 + 548\,684 \#1^6 \&, 6]$	Root $[-67 + 4201 \#1^2 - 84\,730 \#1^4 + 548\,684 \#1^6 \&, 6]$
$2 \sqrt[6]{\frac{97}{599}}$	Root $[-37 + 4081 \#1^2 - 48\,319 \#1^4 + 137\,171 \#1^6 \&, 4]$	Root $[-37 + 4081 \#1^2 - 48\,319 \#1^4 + 137\,171 \#1^6 \&, 4]$
$11 \sqrt[3]{\frac{\sqrt{202}}{4193}}$	Root $[-689 + 45\,241 \#1^2 - 633\,872 \#1^4 + 2\,194\,736 \#1^6 \&, 4]$	Root $[-689 + 45\,241 \#1^2 - 633\,872 \#1^4 + 2\,194\,736 \#1^6 \&, 4]$
$\sqrt[6]{\frac{\sqrt{13\,967}}{599}}$	Root $[-461 + 43\,187 \#1^2 - 1\,002\,562 \#1^4 + 3\,840\,788 \#1^6 \&, 4]$	Root $[-461 + 43\,187 \#1^2 - 1\,002\,562 \#1^4 + 3\,840\,788 \#1^6 \&, 4]$
$2 \sqrt[3]{\frac{\sqrt{6110}}{4193}}$	Root $[-113 + 6937 \#1^2 - 123\,660 \#1^4 + 548\,684 \#1^6 \&, 4]$	Root $[-113 + 6937 \#1^2 - 123\,660 \#1^4 + 548\,684 \#1^6 \&, 4]$
$\sqrt[4]{\frac{8146}{12\,579}}$	Root $[-73 + 12\,817 \#1^2 - 355\,408 \#1^4 + 2\,194\,736 \#1^6 \&, 5]$	Root $[-73 + 12\,817 \#1^2 - 355\,408 \#1^4 + 2\,194\,736 \#1^6 \&, 5]$
$2 \sqrt[4]{\frac{2038}{12\,579}}$	Root $[-27 + 8811 \#1^2 - 511\,128 \#1^4 + 2\,194\,736 \#1^6 \&, 4]$	Root $[-27 + 8811 \#1^2 - 511\,128 \#1^4 + 2\,194\,736 \#1^6 \&, 4]$
$\sqrt[2]{\frac{\sqrt{1541}}{599}}$	Root $[-313 + 16\,903 \#1^2 - 239\,763 \#1^4 + 960\,197 \#1^6 \&, 6]$	Root $[-313 + 16\,903 \#1^2 - 239\,763 \#1^4 + 960\,197 \#1^6 \&, 6]$
$\sqrt[4]{\frac{771}{1198}}$	Root $[-772 + 25\,462 \#1^2 - 273\,655 \#1^4 + 960\,197 \#1^6 \&, 6]$	Root $[-772 + 25\,462 \#1^2 - 273\,655 \#1^4 + 960\,197 \#1^6 \&, 6]$
$\sqrt[2]{\frac{\sqrt{10\,793}}{4193}}$	Root $[-601 + 63\,955 \#1^2 - 957\,678 \#1^4 + 3\,840\,788 \#1^6 \&, 6]$	Root $[-601 + 63\,955 \#1^2 - 957\,678 \#1^4 + 3\,840\,788 \#1^6 \&, 6]$
$\sqrt[3]{\frac{\sqrt{48\,569}}{8386}}$	Root $[-3919 + 213\,935 \#1^2 - 3\,403\,856 \#1^4 + 15\,363\,152 \#1^6 \&, 6]$	Root $[-3919 + 213\,935 \#1^2 - 3\,403\,856 \#1^4 + 15\,363\,152 \#1^6 \&, 6]$

$\frac{\sqrt{\frac{13877}{599}}}{6}$	Root $\left[-359 + 35\,949 \, \#1^2 - 744\,250 \, \#1^4 + 3\,840\,788 \, \#1^6 \&, 6\right]$	Root $\left[-359 + 35\,949 \, \#1^2 - 744\,250 \, \#1^4 + 3\,840\,788 \, \#1^6 \&, 6\right]$
$\frac{\sqrt{\frac{1543}{599}}}{2}$	Root $\left[-1157 + 32\,731 \, \#1^2 - 307\,547 \, \#1^4 + 960\,197 \, \#1^6 \&, 4\right]$	Root $\left[-1157 + 32\,731 \, \#1^2 - 307\,547 \, \#1^4 + 960\,197 \, \#1^6 \&, 4\right]$
$30 \sqrt{\frac{3}{4193}}$	Root $\left[-389 + 14\,075 \, \#1^2 - 156\,178 \, \#1^4 + 548\,684 \, \#1^6 \&, 5\right]$	Root $\left[-389 + 14\,075 \, \#1^2 - 156\,178 \, \#1^4 + 548\,684 \, \#1^6 \&, 5\right]$
$\frac{\sqrt{\frac{97201}{4193}}}{6}$	Root $\left[-9287 + 333\,367 \, \#1^2 - 3\,946\,128 \, \#1^4 + 15\,363\,152 \, \#1^6 \&, 6\right]$	Root $\left[-9287 + 333\,367 \, \#1^2 - 3\,946\,128 \, \#1^4 + 15\,363\,152 \, \#1^6 \&, 6\right]$
$\frac{\sqrt{\frac{6943}{1198}}}{3}$	Root $\left[-1153 + 61\,095 \, \#1^2 - 879\,818 \, \#1^4 + 3\,840\,788 \, \#1^6 \&, 6\right]$	Root $\left[-1153 + 61\,095 \, \#1^2 - 879\,818 \, \#1^4 + 3\,840\,788 \, \#1^6 \&, 6\right]$
$\frac{\sqrt{\frac{24298}{4193}}}{3}$	Root $\left[-347 + 29\,539 \, \#1^2 - 485\,480 \, \#1^4 + 2\,194\,736 \, \#1^6 \&, 6\right]$	Root $\left[-347 + 29\,539 \, \#1^2 - 485\,480 \, \#1^4 + 2\,194\,736 \, \#1^6 \&, 6\right]$
$\frac{\sqrt{\frac{97193}{4193}}}{6}$	Root $\left[-667 + 40\,243 \, \#1^2 - 742\,876 \, \#1^4 + 3\,840\,788 \, \#1^6 \&, 6\right]$	Root $\left[-667 + 40\,243 \, \#1^2 - 742\,876 \, \#1^4 + 3\,840\,788 \, \#1^6 \&, 6\right]$
$\sqrt{\frac{386}{599}}$	Root $\left[-196 + 5530 \, \#1^2 - 48\,777 \, \#1^4 + 137\,171 \, \#1^6 \&, 4\right]$	Root $\left[-196 + 5530 \, \#1^2 - 48\,777 \, \#1^4 + 137\,171 \, \#1^6 \&, 4\right]$
$2 \sqrt{\frac{6079}{4193}}$	Root $\left[-1961 + 61\,737 \, \#1^2 - 641\,200 \, \#1^4 + 2\,194\,736 \, \#1^6 \&, 4\right]$	Root $\left[-1961 + 61\,737 \, \#1^2 - 641\,200 \, \#1^4 + 2\,194\,736 \, \#1^6 \&, 4\right]$
$\frac{\sqrt{\frac{13895}{599}}}{6}$	Root $\left[-1971 + 81\,081 \, \#1^2 - 1\,015\,386 \, \#1^4 + 3\,840\,788 \, \#1^6 \&, 5\right]$	Root $\left[-1971 + 81\,081 \, \#1^2 - 1\,015\,386 \, \#1^4 + 3\,840\,788 \, \#1^6 \&, 5\right]$
$\frac{\sqrt{\frac{24314}{4193}}}{3}$	Root $\left[-1 + 41 \, \#1^2 - 548 \, \#1^4 + 2396 \, \#1^6 \&, 6\right]$	Root $\left[-1 + 41 \, \#1^2 - 548 \, \#1^4 + 2396 \, \#1^6 \&, 6\right]$
$\frac{\sqrt{\frac{32419}{12579}}}{2}$	Root $\left[-1517 + 169\,989 \, \#1^2 - 3\,086\,920 \, \#1^4 + 15\,363\,152 \, \#1^6 \&, 5\right]$	Root $\left[-1517 + 169\,989 \, \#1^2 - 3\,086\,920 \, \#1^4 + 15\,363\,152 \, \#1^6 \&, 5\right]$
$2 \sqrt{\frac{2026}{12579}}$	Root $\left[-193 + 15\,937 \, \#1^2 - 362\,736 \, \#1^4 + 2\,194\,736 \, \#1^6 \&, 6\right]$	Root $\left[-193 + 15\,937 \, \#1^2 - 362\,736 \, \#1^4 + 2\,194\,736 \, \#1^6 \&, 6\right]$
$2 \sqrt{\frac{869}{599}}$	Root $\left[-347 + 13\,701 \, \#1^2 - 164\,422 \, \#1^4 + 548\,684 \, \#1^6 \&, 4\right]$	Root $\left[-347 + 13\,701 \, \#1^2 - 164\,422 \, \#1^4 + 548\,684 \, \#1^6 \&, 4\right]$
$\sqrt{\frac{8110}{12579}}$	Root $\left[-571 + 33\,203 \, \#1^2 - 518\,456 \, \#1^4 + 2\,194\,736 \, \#1^6 \&, 5\right]$	Root $\left[-571 + 33\,203 \, \#1^2 - 518\,456 \, \#1^4 + 2\,194\,736 \, \#1^6 \&, 5\right]$
$\frac{\sqrt{\frac{1535}{599}}}{2}$	Root $\left[-788 + 30\,168 \, \#1^2 - 310\,753 \, \#1^4 + 960\,197 \, \#1^6 \&, 6\right]$	Root $\left[-788 + 30\,168 \, \#1^2 - 310\,753 \, \#1^4 + 960\,197 \, \#1^6 \&, 6\right]$
$\frac{\sqrt{\frac{96697}{4193}}}{6}$	Root $\left[-943 + 245\,543 \, \#1^2 - 3\,997\,424 \, \#1^4 + 15\,363\,152 \, \#1^6 \&, 6\right]$	Root $\left[-943 + 245\,543 \, \#1^2 - 3\,997\,424 \, \#1^4 + 15\,363\,152 \, \#1^6 \&, 6\right]$
$\frac{\sqrt{\frac{6907}{1198}}}{3}$	Root $\left[-719 + 48\,165 \, \#1^2 - 892\,642 \, \#1^4 + 3\,840\,788 \, \#1^6 \&, 6\right]$	Root $\left[-719 + 48\,165 \, \#1^2 - 892\,642 \, \#1^4 + 3\,840\,788 \, \#1^6 \&, 6\right]$
$8 \sqrt{\frac{6}{599}}$	Root $\left[-217 + 5753 \, \#1^2 - 49\,235 \, \#1^4 + 137\,171 \, \#1^6 \&, 5\right]$	Root $\left[-217 + 5753 \, \#1^2 - 49\,235 \, \#1^4 + 137\,171 \, \#1^6 \&, 5\right]$
$\frac{\sqrt{\frac{24190}{4193}}}{3}$	Root $\left[-1537 + 58\,617 \, \#1^2 - 648\,528 \, \#1^4 + 2\,194\,736 \, \#1^6 \&, 6\right]$	Root $\left[-1537 + 58\,617 \, \#1^2 - 648\,528 \, \#1^4 + 2\,194\,736 \, \#1^6 \&, 6\right]$
$\frac{\sqrt{\frac{13823}{599}}}{6}$	Root $\left[-2209 + 84\,647 \, \#1^2 - 1\,028\,210 \, \#1^4 + 3\,840\,788 \, \#1^6 \&, 6\right]$	Root $\left[-2209 + 84\,647 \, \#1^2 - 1\,028\,210 \, \#1^4 + 3\,840\,788 \, \#1^6 \&, 6\right]$
$2 \sqrt{\frac{6047}{4193}}$	Root $\left[-49 + 6937 \, \#1^2 - 127\,324 \, \#1^4 + 548\,684 \, \#1^6 \&, 6\right]$	Root $\left[-49 + 6937 \, \#1^2 - 127\,324 \, \#1^4 + 548\,684 \, \#1^6 \&, 6\right]$
$\frac{\sqrt{\frac{32251}{12579}}}{2}$	Root $\left[-1709 + 137\,437 \, \#1^2 - 3\,138\,216 \, \#1^4 + 15\,363\,152 \, \#1^6 \&, 6\right]$	Root $\left[-1709 + 137\,437 \, \#1^2 - 3\,138\,216 \, \#1^4 + 15\,363\,152 \, \#1^6 \&, 6\right]$
$\frac{\sqrt{\frac{3458}{599}}}{3}$	Root $\left[-541 + 16\,567 \, \#1^2 - 166\,254 \, \#1^4 + 548\,684 \, \#1^6 \&, 6\right]$	Root $\left[-541 + 16\,567 \, \#1^2 - 166\,254 \, \#1^4 + 548\,684 \, \#1^6 \&, 6\right]$
$2 \sqrt{\frac{2017}{12579}}$	Root $\left[-827 + 37\,979 \, \#1^2 - 525\,784 \, \#1^4 + 2\,194\,736 \, \#1^6 \&, 6\right]$	Root $\left[-827 + 37\,979 \, \#1^2 - 525\,784 \, \#1^4 + 2\,194\,736 \, \#1^6 \&, 6\right]$
$\frac{\sqrt{\frac{24202}{4193}}}{3}$	Root $\left[-13 + 3063 \, \#1^2 - 96\,638 \, \#1^4 + 548\,684 \, \#1^6 \&, 6\right]$	Root $\left[-13 + 3063 \, \#1^2 - 96\,638 \, \#1^4 + 548\,684 \, \#1^6 \&, 6\right]$
$2 \sqrt{\frac{865}{599}}$	Root $\left[-223 + 2240 \, \#1^2 - 22292 \, \#1^4 + 137\,171 \, \#1^6 \&, 5\right]$	Root $\left[-223 + 2240 \, \#1^2 - 22292 \, \#1^4 + 137\,171 \, \#1^6 \&, 5\right]$

$\frac{3}{\sqrt{\frac{382}{599}}}$	$\text{Root}[-23 + 2240 \#1 - 33892 \#1^2 + 137171 \#1^3 \&, 3]$	$\text{Root}[-23 + 2240 \#1 - 33892 \#1^2 + 137171 \#1^3 \&, 3]$
$4 \sqrt{\frac{215}{599}}$	$\text{Root}[-52 + 4750 \#1^2 - 49693 \#1^4 + 137171 \#1^6 \&, 6]$	$\text{Root}[-52 + 4750 \#1^2 - 49693 \#1^4 + 137171 \#1^6 \&, 6]$
$\frac{4}{3} \sqrt{\frac{215}{599}}$	$\text{Root}[-343 + 14529 \#1^2 - 168086 \#1^4 + 548684 \#1^6 \&, 6]$	$\text{Root}[-343 + 14529 \#1^2 - 168086 \#1^4 + 548684 \#1^6 \&, 6]$
$\sqrt{\frac{8026}{12579}}$	$\text{Root}[-27 + 23139 \#1^2 - 533112 \#1^4 + 2194736 \#1^6 \&, 6]$	$\text{Root}[-27 + 23139 \#1^2 - 533112 \#1^4 + 2194736 \#1^6 \&, 6]$
$\sqrt{\frac{13759}{599}}$	$\text{Root}[-37 + 5886 \#1^2 - 206558 \#1^4 + 960197 \#1^6 \&, 6]$	$\text{Root}[-37 + 5886 \#1^2 - 206558 \#1^4 + 960197 \#1^6 \&, 6]$
$\frac{6}{\sqrt{\frac{3442}{599}}}$	$\text{Root}[-37 + 2224 \#1^2 - 34350 \#1^4 + 137171 \#1^6 \&, 6]$	$\text{Root}[-37 + 2224 \#1^2 - 34350 \#1^4 + 137171 \#1^6 \&, 6]$

Dimensions[angle10]

{94, 7}

orderedroots[minipoly[chi10]]

{-5, Root[-556 + 213 #1 - 26 #1² + #1³ &, 1], Root[-556 + 213 #1 - 26 #1² + #1³ &, 2],
9, 11, Root[-556 + 213 #1 - 26 #1² + #1³ &, 3], 13}

chi10

$(-13 + x) (-11 + x)^2 (-9 + x)^{11} (5 + x)^{32} (-556 + 213 x - 26 x^2 + x^3)$

coeff[chi10, (x + 5) (x - 9) (x - 11)] // FullSimplify

{Root[-1 073 408 + 34 640 #1 - 339 #1² + #1³ &, 3],
Root[-1 073 408 + 34 640 #1 - 339 #1² + #1³ &, 1],
Root[-1 073 408 + 34 640 #1 - 339 #1² + #1³ &, 2], 144}

**combinationangle[{Root[-1 073 408 + 34 640 #1 - 339 #1² + #1³ &, 3],
Root[-1 073 408 + 34 640 #1 - 339 #1² + #1³ &, 1],
Root[-1 073 408 + 34 640 #1 - 339 #1² + #1³ &, 2], 144},
{1, 9}, {2, 3, 6, 7}, angle10] // FullSimplify**

{Root[9 665 881 - 30 511 076 #1² + 11 728 022 #1⁴ - 1 470 180 #1⁶ + 52 441 #1⁸ &, 8],
Root[9 665 881 - 30 511 076 #1² + 11 728 022 #1⁴ - 1 470 180 #1⁶ + 52 441 #1⁸ &, 8],
Root[9 665 881 - 30 511 076 #1² + 11 728 022 #1⁴ - 1 470 180 #1⁶ + 52 441 #1⁸ &, 7],
Root[9 665 881 - 30 511 076 #1² + 11 728 022 #1⁴ - 1 470 180 #1⁶ + 52 441 #1⁸ &, 7],
Root[9 665 881 - 30 511 076 #1² + 11 728 022 #1⁴ - 1 470 180 #1⁶ + 52 441 #1⁸ &, 6],
Root[9 665 881 - 30 511 076 #1² + 11 728 022 #1⁴ - 1 470 180 #1⁶ + 52 441 #1⁸ &, 6],
Root[9 665 881 - 30 511 076 #1² + 11 728 022 #1⁴ - 1 470 180 #1⁶ + 52 441 #1⁸ &, 5],
Root[9 665 881 - 30 511 076 #1² + 11 728 022 #1⁴ - 1 470 180 #1⁶ + 52 441 #1⁸ &, 5]}

```

compatible[
  {Root[9 665 881 - 30 511 076 #12 + 11 728 022 #14 - 1 470 180 #16 + 52 441 #18 &, 8],
   Root[9 665 881 - 30 511 076 #12 + 11 728 022 #14 - 1 470 180 #16 + 52 441 #18 &, 8],
   Root[9 665 881 - 30 511 076 #12 + 11 728 022 #14 - 1 470 180 #16 + 52 441 #18 &, 7],
   Root[9 665 881 - 30 511 076 #12 + 11 728 022 #14 - 1 470 180 #16 + 52 441 #18 &, 7],
   Root[9 665 881 - 30 511 076 #12 + 11 728 022 #14 - 1 470 180 #16 + 52 441 #18 &, 6],
   Root[9 665 881 - 30 511 076 #12 + 11 728 022 #14 - 1 470 180 #16 + 52 441 #18 &, 6],
   Root[9 665 881 - 30 511 076 #12 + 11 728 022 #14 - 1 470 180 #16 + 52 441 #18 &, 5],
   Root[9 665 881 - 30 511 076 #12 + 11 728 022 #14 - 1 470 180 #16 + 52 441 #18 &, 5]}]
0

```

$$\begin{aligned}
 \text{ch11} &= (-13 + x) (-12 + x) (-11 + x)^2 (-9 + x)^{12} (-5 + x) (5 + x)^{32} \\
 &(-13 + x) (-12 + x) (-11 + x)^2 (-9 + x)^{12} (-5 + x) (5 + x)^{32}
 \end{aligned}$$

```
list11 = {(-13 + x) (2789 - 1696 x + 362 x2 - 32 x3 + x4),
  (-13 + x) (-11 + x) (-5 + x) (51 - 16 x + x2), (-13 + x) (73 - 18 x + x2) (37 - 14 x + x2),
  (-13 + x) (-11 + x) (-247 + 131 x - 21 x2 + x3),
  (-11 + x) (3227 - 1950 x + 404 x2 - 34 x3 + x4), (-13 + x) (-7 + x)
  (-371 + 187 x - 25 x2 + x3), (-13 + x) (2613 - 1680 x + 362 x2 - 32 x3 + x4),
  (-13 + x) (-11 + x) (-239 + 131 x - 21 x2 + x3), -34 145 + 24 469 x - 6386 x2 +
  778 x3 - 45 x4 + x5, (-11 + x) (3123 - 1942 x + 404 x2 - 34 x3 + x4),
  (-11 + x) (73 - 18 x + x2) (43 - 16 x + x2), (-13 + x) (2509 - 1672 x + 362 x2 - 32 x3 + x4),
  (-13 + x) (2525 - 1672 x + 362 x2 - 32 x3 + x4), (-13 + x) (-11 + x)2 (-7 + x) (-3 + x),
  -33 001 + 24 277 x - 6378 x2 + 778 x3 - 45 x4 + x5,
  (-11 + x) (3019 - 1934 x + 404 x2 - 34 x3 + x4),
  (-11 + x) (3035 - 1934 x + 404 x2 - 34 x3 + x4), (-13 + x) (-9 + x)
  (-269 + 155 x - 23 x2 + x3), (-13 + x) (2437 - 1664 x + 362 x2 - 32 x3 + x4),
  -31 649 + 24 069 x - 6370 x2 + 778 x3 - 45 x4 + x5, (-13 + x) (-11 + x)
  (-223 + 131 x - 21 x2 + x3), -31 857 + 24 085 x - 6370 x2 + 778 x3 - 45 x4 + x5,
  (-11 + x)2 (-265 + 151 x - 23 x2 + x3), -32 033 + 24 101 x - 6370 x2 + 778 x3 - 45 x4 + x5,
  (-11 + x) (2931 - 1926 x + 404 x2 - 34 x3 + x4),
  (-11 + x) (-7 + x) (-421 + 215 x - 27 x2 + x3), (-13 + x) (-9 + x)2 (29 - 14 x + x2),
  (-13 + x) (-11 + x) (-215 + 131 x - 21 x2 + x3), -30 713 + 23 893 x -
  6362 x2 + 778 x3 - 45 x4 + x5, (-11 + x) (2811 - 1918 x + 404 x2 - 34 x3 + x4),
  -30 889 + 23 909 x - 6362 x2 + 778 x3 - 45 x4 + x5, (-11 + x)2 (-257 + 151 x - 23 x2 + x3),
  (-11 + x) (2843 - 1918 x + 404 x2 - 34 x3 + x4), (-13 + x) (-11 + x) (-9 + x)
  (23 - 12 x + x2), (-11 + x) (2707 - 1910 x + 404 x2 - 34 x3 + x4), (-9 + x)
  (3305 - 2268 x + 454 x2 - 36 x3 + x4), (-11 + x) (2723 - 1910 x + 404 x2 - 34 x3 + x4),
  -29 921 + 23 733 x - 6354 x2 + 778 x3 - 45 x4 + x5, (-11 + x)2 (-249 + 151 x - 23 x2 + x3),
  (-11 + x) (95 - 20 x + x2) (29 - 14 x + x2), (-11 + x) (-9 + x) (-291 + 179 x - 25 x2 + x3),
  (-11 + x) (2635 - 1902 x + 404 x2 - 34 x3 + x4), (-11 + x)2 (-241 + 151 x - 23 x2 + x3),
  (-11 + x) (-9 + x) (-283 + 179 x - 25 x2 + x3), (-11 + x)2 (-233 + 151 x - 23 x2 + x3)};
```

```
Length[list11]
```

```
45
```

```
A11 = CoefficientList[list11, x];
```

A11 // MatrixForm

$$\begin{pmatrix} -36257 & 24837 & -6402 & 778 & -45 & 1 \\ -36465 & 24853 & -6402 & 778 & -45 & 1 \\ -35113 & 24645 & -6394 & 778 & -45 & 1 \\ -35321 & 24661 & -6394 & 778 & -45 & 1 \\ -35497 & 24677 & -6394 & 778 & -45 & 1 \\ -33761 & 24437 & -6386 & 778 & -45 & 1 \\ -33969 & 24453 & -6386 & 778 & -45 & 1 \\ -34177 & 24469 & -6386 & 778 & -45 & 1 \\ -34145 & 24469 & -6386 & 778 & -45 & 1 \\ -34353 & 24485 & -6386 & 778 & -45 & 1 \\ -34529 & 24501 & -6386 & 778 & -45 & 1 \\ -32617 & 24245 & -6378 & 778 & -45 & 1 \\ -32825 & 24261 & -6378 & 778 & -45 & 1 \\ -33033 & 24277 & -6378 & 778 & -45 & 1 \\ -33001 & 24277 & -6378 & 778 & -45 & 1 \\ -33209 & 24293 & -6378 & 778 & -45 & 1 \\ -33385 & 24309 & -6378 & 778 & -45 & 1 \\ -31473 & 24053 & -6370 & 778 & -45 & 1 \\ -31681 & 24069 & -6370 & 778 & -45 & 1 \\ -31649 & 24069 & -6370 & 778 & -45 & 1 \\ -31889 & 24085 & -6370 & 778 & -45 & 1 \\ -31857 & 24085 & -6370 & 778 & -45 & 1 \\ -32065 & 24101 & -6370 & 778 & -45 & 1 \\ -32033 & 24101 & -6370 & 778 & -45 & 1 \\ -32241 & 24117 & -6370 & 778 & -45 & 1 \\ -32417 & 24133 & -6370 & 778 & -45 & 1 \\ -30537 & 23877 & -6362 & 778 & -45 & 1 \\ -30745 & 23893 & -6362 & 778 & -45 & 1 \\ -30713 & 23893 & -6362 & 778 & -45 & 1 \\ -30921 & 23909 & -6362 & 778 & -45 & 1 \\ -30889 & 23909 & -6362 & 778 & -45 & 1 \\ -31097 & 23925 & -6362 & 778 & -45 & 1 \\ -31273 & 23941 & -6362 & 778 & -45 & 1 \\ -29601 & 23701 & -6354 & 778 & -45 & 1 \\ -29777 & 23717 & -6354 & 778 & -45 & 1 \\ -29745 & 23717 & -6354 & 778 & -45 & 1 \\ -29953 & 23733 & -6354 & 778 & -45 & 1 \\ -29921 & 23733 & -6354 & 778 & -45 & 1 \\ -30129 & 23749 & -6354 & 778 & -45 & 1 \\ -30305 & 23765 & -6354 & 778 & -45 & 1 \\ -28809 & 23541 & -6346 & 778 & -45 & 1 \\ -28985 & 23557 & -6346 & 778 & -45 & 1 \\ -29161 & 23573 & -6346 & 778 & -45 & 1 \\ -28017 & 23381 & -6338 & 778 & -45 & 1 \\ -28193 & 23397 & -6338 & 778 & -45 & 1 \end{pmatrix}$$

Dimensions[A11]

{45, 6}

gpart[ch11]

{-1746945, 1211077, -313410, 38122, -2205, 49}

```

FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 && n[20] ≥ 0 &&
  n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 && n[26] ≥ 0 &&
  n[27] ≥ 0 && n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 &&
  n[33] ≥ 0 && n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 &&
  n[39] ≥ 0 && n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 &&
  n[45] ≥ 0 && Array[n, 45].A11 == gpart[chil1], Array[n, 45], Integers]
{{n[1] → 24, n[2] → 0, n[3] → 0, n[4] → 0, n[5] → 14, n[6] → 0,
  n[7] → 0, n[8] → 0, n[9] → 0, n[10] → 0, n[11] → 11, n[12] → 0, n[13] → 0,
  n[14] → 0, n[15] → 0, n[16] → 0, n[17] → 0, n[18] → 0, n[19] → 0,
  n[20] → 0, n[21] → 0, n[22] → 0, n[23] → 0, n[24] → 0, n[25] → 0,
  n[26] → 0, n[27] → 0, n[28] → 0, n[29] → 0, n[30] → 0, n[31] → 0, n[32] → 0,
  n[33] → 0, n[34] → 0, n[35] → 0, n[36] → 0, n[37] → 0, n[38] → 0, n[39] → 0,
  n[40] → 0, n[41] → 0, n[42] → 0, n[43] → 0, n[44] → 0, n[45] → 0}}
Array[n, 45] /. {n[1] → 24, n[2] → 0, n[3] → 0, n[4] → 0, n[5] → 14,
  n[6] → 0, n[7] → 0, n[8] → 0, n[9] → 0, n[10] → 0, n[11] → 11, n[12] → 0,
  n[13] → 0, n[14] → 0, n[15] → 0, n[16] → 0, n[17] → 0, n[18] → 0,
  n[19] → 0, n[20] → 0, n[21] → 0, n[22] → 0, n[23] → 0, n[24] → 0,
  n[25] → 0, n[26] → 0, n[27] → 0, n[28] → 0, n[29] → 0, n[30] → 0, n[31] → 0,
  n[32] → 0, n[33] → 0, n[34] → 0, n[35] → 0, n[36] → 0, n[37] → 0, n[38] → 0,
  n[39] → 0, n[40] → 0, n[41] → 0, n[42] → 0, n[43] → 0, n[44] → 0, n[45] → 0}
{24, 0, 0, 0, 14, 0, 0, 0, 0, 0, 11, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
  0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0}

```

1, 5, 11

```

FindInstance[n[1] == 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 && n[20] ≥ 0 &&
  n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 && n[26] ≥ 0 &&
  n[27] ≥ 0 && n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 &&
  n[33] ≥ 0 && n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 &&
  n[39] ≥ 0 && n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 &&
  n[45] ≥ 0 && Array[n, 45].A11 == gpart[chil1], Array[n, 45], Integers]
{}

```

```

FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] == 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] ≥ 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 && n[20] ≥ 0 &&
  n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 && n[26] ≥ 0 &&
  n[27] ≥ 0 && n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 &&
  n[33] ≥ 0 && n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 &&
  n[39] ≥ 0 && n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 &&
  n[45] ≥ 0 && Array[n, 45].A11 == gpart[chi11], Array[n, 45], Integers]
{{n[1] → 24, n[2] → 7, n[3] → 0, n[4] → 0, n[5] → 0, n[6] → 0, n[7] → 0,
  n[8] → 0, n[9] → 0, n[10] → 0, n[11] → 18, n[12] → 0, n[13] → 0, n[14] → 0,
  n[15] → 0, n[16] → 0, n[17] → 0, n[18] → 0, n[19] → 0, n[20] → 0,
  n[21] → 0, n[22] → 0, n[23] → 0, n[24] → 0, n[25] → 0, n[26] → 0,
  n[27] → 0, n[28] → 0, n[29] → 0, n[30] → 0, n[31] → 0, n[32] → 0,
  n[33] → 0, n[34] → 0, n[35] → 0, n[36] → 0, n[37] → 0, n[38] → 0, n[39] → 0,
  n[40] → 0, n[41] → 0, n[42] → 0, n[43] → 0, n[44] → 0, n[45] → 0}}

FindInstance[n[1] ≥ 0 && n[2] ≥ 0 && n[3] ≥ 0 && n[4] ≥ 0 && n[5] ≥ 0 && n[6] ≥ 0 &&
  n[7] ≥ 0 && n[8] ≥ 0 && n[9] ≥ 0 && n[10] ≥ 0 && n[11] == 0 && n[12] ≥ 0 && n[13] ≥ 0 &&
  n[14] ≥ 0 && n[15] ≥ 0 && n[16] ≥ 0 && n[17] ≥ 0 && n[18] ≥ 0 && n[19] ≥ 0 && n[20] ≥ 0 &&
  n[21] ≥ 0 && n[22] ≥ 0 && n[23] ≥ 0 && n[24] ≥ 0 && n[25] ≥ 0 && n[26] ≥ 0 &&
  n[27] ≥ 0 && n[28] ≥ 0 && n[29] ≥ 0 && n[30] ≥ 0 && n[31] ≥ 0 && n[32] ≥ 0 &&
  n[33] ≥ 0 && n[34] ≥ 0 && n[35] ≥ 0 && n[36] ≥ 0 && n[37] ≥ 0 && n[38] ≥ 0 &&
  n[39] ≥ 0 && n[40] ≥ 0 && n[41] ≥ 0 && n[42] ≥ 0 && n[43] ≥ 0 && n[44] ≥ 0 &&
  n[45] ≥ 0 && Array[n, 45].A11 == gpart[chi11], Array[n, 45], Integers]
{}

list11[{{1, 11}}] * mu[chi11] // Factor
{(-13 + x) (-11 + x) (-9 + x)11 (5 + x)31 (2789 - 1696 x + 362 x2 - 32 x3 + x4),
  (-11 + x)2 (-9 + x)11 (5 + x)31 (73 - 18 x + x2) (43 - 16 x + x2)}
```

Array[m, 6].Transpose[A11]

```
{ -36 257 m[1] + 24 837 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -36 465 m[1] + 24 853 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -35 113 m[1] + 24 645 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -35 321 m[1] + 24 661 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -35 497 m[1] + 24 677 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -33 761 m[1] + 24 437 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -33 969 m[1] + 24 453 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -34 177 m[1] + 24 469 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -34 145 m[1] + 24 469 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -34 353 m[1] + 24 485 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -34 529 m[1] + 24 501 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -32 617 m[1] + 24 245 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -32 825 m[1] + 24 261 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -33 033 m[1] + 24 277 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -33 001 m[1] + 24 277 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -33 209 m[1] + 24 293 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -33 385 m[1] + 24 309 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -31 473 m[1] + 24 053 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -31 681 m[1] + 24 069 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -31 649 m[1] + 24 069 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -31 889 m[1] + 24 085 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -31 857 m[1] + 24 085 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -32 065 m[1] + 24 101 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -32 033 m[1] + 24 101 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -32 241 m[1] + 24 117 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -32 417 m[1] + 24 133 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -30 537 m[1] + 23 877 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -30 745 m[1] + 23 893 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -30 713 m[1] + 23 893 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -30 921 m[1] + 23 909 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -30 889 m[1] + 23 909 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -31 097 m[1] + 23 925 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -31 273 m[1] + 23 941 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -29 601 m[1] + 23 701 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -29 777 m[1] + 23 717 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -29 745 m[1] + 23 717 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -29 953 m[1] + 23 733 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -29 921 m[1] + 23 733 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -30 129 m[1] + 23 749 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -30 305 m[1] + 23 765 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -28 809 m[1] + 23 541 m[2] - 6346 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -28 985 m[1] + 23 557 m[2] - 6346 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -29 161 m[1] + 23 573 m[2] - 6346 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -28 017 m[1] + 23 381 m[2] - 6338 m[3] + 778 m[4] - 45 m[5] + m[6] ,
  -28 193 m[1] + 23 397 m[2] - 6338 m[3] + 778 m[4] - 45 m[5] + m[6] }
```

Array[m, 6].gpart[chi11]

$-1746945\,m[1] + 1211077\,m[2] - 313410\,m[3] + 38122\,m[4] - 2205\,m[5] + 49\,m[6]$

FindInstance[

$-1746945\,m[1] + 1211077\,m[2] - 313410\,m[3] + 38122\,m[4] - 2205\,m[5] + 49\,m[6] < 0 \&\&$
 $-36257\,m[1] + 24837\,m[2] - 6402\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-36465\,m[1] + 24853\,m[2] - 6402\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-35113\,m[1] + 24645\,m[2] - 6394\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-35321\,m[1] + 24661\,m[2] - 6394\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-35497\,m[1] + 24677\,m[2] - 6394\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-33761\,m[1] + 24437\,m[2] - 6386\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-33969\,m[1] + 24453\,m[2] - 6386\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-34177\,m[1] + 24469\,m[2] - 6386\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-34145\,m[1] + 24469\,m[2] - 6386\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-34353\,m[1] + 24485\,m[2] - 6386\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-34529\,m[1] + 24501\,m[2] - 6386\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-32617\,m[1] + 24245\,m[2] - 6378\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-32825\,m[1] + 24261\,m[2] - 6378\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-33033\,m[1] + 24277\,m[2] - 6378\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-33001\,m[1] + 24277\,m[2] - 6378\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-33209\,m[1] + 24293\,m[2] - 6378\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-33385\,m[1] + 24309\,m[2] - 6378\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-31473\,m[1] + 24053\,m[2] - 6370\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-31681\,m[1] + 24069\,m[2] - 6370\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-31649\,m[1] + 24069\,m[2] - 6370\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-31889\,m[1] + 24085\,m[2] - 6370\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-31857\,m[1] + 24085\,m[2] - 6370\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-32065\,m[1] + 24101\,m[2] - 6370\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-32033\,m[1] + 24101\,m[2] - 6370\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-32241\,m[1] + 24117\,m[2] - 6370\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-32417\,m[1] + 24133\,m[2] - 6370\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-30537\,m[1] + 23877\,m[2] - 6362\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-30745\,m[1] + 23893\,m[2] - 6362\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-30713\,m[1] + 23893\,m[2] - 6362\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-30921\,m[1] + 23909\,m[2] - 6362\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-30889\,m[1] + 23909\,m[2] - 6362\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-31097\,m[1] + 23925\,m[2] - 6362\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-31273\,m[1] + 23941\,m[2] - 6362\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-29601\,m[1] + 23701\,m[2] - 6354\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-29777\,m[1] + 23717\,m[2] - 6354\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-29745\,m[1] + 23717\,m[2] - 6354\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-29953\,m[1] + 23733\,m[2] - 6354\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-29921\,m[1] + 23733\,m[2] - 6354\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-30129\,m[1] + 23749\,m[2] - 6354\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-30305\,m[1] + 23765\,m[2] - 6354\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-28809\,m[1] + 23541\,m[2] - 6346\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$
 $-28985\,m[1] + 23557\,m[2] - 6346\,m[3] + 778\,m[4] - 45\,m[5] + m[6] \geq 0 \&\&$

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-29 161 m[1] + 23 573 m[2] - 6346 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-28 017 m[1] + 23 381 m[2] - 6338 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-28 193 m[1] + 23 397 m[2] - 6338 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0,
Array[m, 6], Integers]
{}

```

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FindInstance[
-1 746 945 m[1] + 1 211 077 m[2] - 313 410 m[3] + 38 122 m[4] - 2205 m[5] + 49 m[6] < 0 &&
-36 257 m[1] + 24 837 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] < 0 &&
-36 465 m[1] + 24 853 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35 113 m[1] + 24 645 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35 321 m[1] + 24 661 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35 497 m[1] + 24 677 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-33 761 m[1] + 24 437 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-33 969 m[1] + 24 453 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34 177 m[1] + 24 469 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34 145 m[1] + 24 469 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34 353 m[1] + 24 485 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34 529 m[1] + 24 501 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-32 617 m[1] + 24 245 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-32 825 m[1] + 24 261 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-33 033 m[1] + 24 277 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-33 001 m[1] + 24 277 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-33 209 m[1] + 24 293 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-33 385 m[1] + 24 309 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-31 473 m[1] + 24 053 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-31 681 m[1] + 24 069 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-31 649 m[1] + 24 069 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-31 889 m[1] + 24 085 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-31 857 m[1] + 24 085 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-32 065 m[1] + 24 101 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-32 033 m[1] + 24 101 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-32 241 m[1] + 24 117 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-32 417 m[1] + 24 133 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-30 537 m[1] + 23 877 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-30 745 m[1] + 23 893 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-30 713 m[1] + 23 893 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-30 921 m[1] + 23 909 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-30 889 m[1] + 23 909 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-31 097 m[1] + 23 925 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-31 273 m[1] + 23 941 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-29 601 m[1] + 23 701 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-29 777 m[1] + 23 717 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-29 745 m[1] + 23 717 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-29 953 m[1] + 23 733 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&

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-29 921 m[1] + 23 733 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-30 129 m[1] + 23 749 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-30 305 m[1] + 23 765 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-28 809 m[1] + 23 541 m[2] - 6346 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-28 985 m[1] + 23 557 m[2] - 6346 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-29 161 m[1] + 23 573 m[2] - 6346 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-28 017 m[1] + 23 381 m[2] - 6338 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-28 193 m[1] + 23 397 m[2] - 6338 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0,
Array[m, 6], Integers]
{{m[1] → -8625, m[2] → -103 494,
  m[3] → -1 233 304, m[4] → 0, m[5] → 0, m[6] → -5 637 966 054}}

Array[m, 6] /. {m[1] → -8625, m[2] → -103 494,
  m[3] → -1 233 304, m[4] → 0, m[5] → 0, m[6] → -5 637 966 054}
{-8625, -103 494, -1 233 304, 0, 0, -5 637 966 054}

GCD[-8625, -103 494, -1 233 304, 0, 0, -5 637 966 054]
1

Reverse[{-8625, -103 494, -1 233 304, 0, 0, -5 637 966 054}]
{-5 637 966 054, 0, 0, -1 233 304, -103 494, -8625}

{-8625, -103 494, -1 233 304, 0, 0, -5 637 966 054}.gpart[chi11]
-2 332 419

{-8625, -103 494, -1 233 304, 0, 0, -5 637 966 054}.Transpose[A11]
{-117 699, 20 397, 19 717, 157 813, 19 909, 19 037, 157 133, 295 229, 19 229,
  157 325, 19 421, 156 453, 294 549, 432 645, 156 645, 294 741, 156 837, 293 869,
  431 965, 155 965, 570 061, 294 061, 432 157, 156 157, 294 253, 156 349, 569 381,
  707 477, 431 477, 569 573, 293 573, 431 669, 293 765, 844 893, 706 989, 430 989,
  569 085, 293 085, 431 181, 293 277, 706 501, 568 597, 430 693, 568 109, 430 205}

FindInstance[
-1 746 945 m[1] + 1 211 077 m[2] - 313 410 m[3] + 38 122 m[4] - 2205 m[5] + 49 m[6] < 0 &&
-36 257 m[1] + 24 837 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-36 465 m[1] + 24 853 m[2] - 6402 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35 113 m[1] + 24 645 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35 321 m[1] + 24 661 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-35 497 m[1] + 24 677 m[2] - 6394 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-33 761 m[1] + 24 437 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-33 969 m[1] + 24 453 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34 177 m[1] + 24 469 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34 145 m[1] + 24 469 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34 353 m[1] + 24 485 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
-34 529 m[1] + 24 501 m[2] - 6386 m[3] + 778 m[4] - 45 m[5] + m[6] < 0 &&

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- 32 617 m[1] + 24 245 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 825 m[1] + 24 261 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 033 m[1] + 24 277 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 001 m[1] + 24 277 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 209 m[1] + 24 293 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 33 385 m[1] + 24 309 m[2] - 6378 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 473 m[1] + 24 053 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 681 m[1] + 24 069 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 649 m[1] + 24 069 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 889 m[1] + 24 085 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 857 m[1] + 24 085 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 065 m[1] + 24 101 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 033 m[1] + 24 101 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 241 m[1] + 24 117 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 32 417 m[1] + 24 133 m[2] - 6370 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 30 537 m[1] + 23 877 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 30 745 m[1] + 23 893 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 30 713 m[1] + 23 893 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 30 921 m[1] + 23 909 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 30 889 m[1] + 23 909 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 097 m[1] + 23 925 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 31 273 m[1] + 23 941 m[2] - 6362 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 29 601 m[1] + 23 701 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 29 777 m[1] + 23 717 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 29 745 m[1] + 23 717 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 29 953 m[1] + 23 733 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 29 921 m[1] + 23 733 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 30 129 m[1] + 23 749 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 30 305 m[1] + 23 765 m[2] - 6354 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 28 809 m[1] + 23 541 m[2] - 6346 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 28 985 m[1] + 23 557 m[2] - 6346 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 29 161 m[1] + 23 573 m[2] - 6346 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 28 017 m[1] + 23 381 m[2] - 6338 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0 &&
- 28 193 m[1] + 23 397 m[2] - 6338 m[3] + 778 m[4] - 45 m[5] + m[6] ≥ 0,
Array[m, 6], Integers]
{{m[1] → -37 635, m[2] → -470 427,
  m[3] → -5 833 300, m[4] → 0, m[5] → 0, m[6] → -27 025 283 304}}

Array[m, 6] /. {m[1] → -37 635, m[2] → -470 427,
  m[3] → -5 833 300, m[4] → 0, m[5] → 0, m[6] → -27 025 283 304}
{-37 635, -470 427, -5 833 300, 0, 0, -27 025 283 304}

GCD[-37 635, -470 427, -5 833 300, 0, 0, -27 025 283 304]
1

Reverse[{-37 635, -470 427, -5 833 300, 0, 0, -27 025 283 304}]
{-27 025 283 304, 0, 0, -5 833 300, -470 427, -37 635}

```

```
{-37 635, -470 427, -5 833 300, 0, 0, -27 025 283 304}.gpart[chi11]
```

```
-1 373 700
```

```
{-37 635, -470 427, -5 833 300, 0, 0, -27 025 283 304}.Transpose[A11]
```

```
{40 092, 341 340, 641 236, 942 484, 39 412, 941 132, 1 242 380, 1 543 628,  
339 308, 640 556, -262 516, 1 542 276, 1 843 524, 2 144 772, 940 452,  
1 241 700, 338 628, 2 143 420, 2 444 668, 1 240 348, 2 745 916, 1 541 596,  
1 842 844, 638 524, 939 772, 36 700, 3 045 812, 3 347 060, 2 142 740, 2 443 988,  
1 239 668, 1 540 916, 637 844, 3 948 204, 3 045 132, 1 840 812, 2 142 060,  
937 740, 1 238 988, 335 916, 2 743 204, 1 840 132, 937 060, 1 538 204, 635 132}
```

```
anglesq11 = anglesquaredmat[chi11, list11] // FullSimplify;
```

```
Dimensions[anglesq11]
```

```
{45, 6}
```

```
angle11 = Sqrt[anglesq11] // FullSimplify;
```

```
angle11 // MatrixForm
```

$$\begin{pmatrix} \frac{\sqrt{\frac{1559}{595}}}{2} & \frac{1}{\sqrt{105}} & \sqrt{\frac{5}{21}} & \frac{1}{2\sqrt{3}} & \sqrt{\frac{5}{357}} & 0 \\ \sqrt{\frac{78}{119}} & 0 & \sqrt{\frac{2}{7}} & 0 & \frac{1}{\sqrt{17}} & 0 \\ \frac{\sqrt{\frac{1551}{595}}}{2} & \frac{2}{\sqrt{105}} & \frac{2}{\sqrt{21}} & \frac{1}{2\sqrt{3}} & \sqrt{\frac{13}{357}} & 0 \\ 2\sqrt{\frac{97}{595}} & \frac{1}{\sqrt{35}} & \sqrt{\frac{5}{21}} & 0 & \sqrt{\frac{29}{357}} & 0 \\ \frac{\sqrt{\frac{3494}{595}}}{3} & \frac{\sqrt{\frac{3}{35}}}{2} & \sqrt{\frac{11}{42}} & 0 & \sqrt{\frac{13}{357}} & \frac{1}{6} \\ \sqrt{\frac{771}{1190}} & 2\sqrt{\frac{2}{105}} & \sqrt{\frac{2}{21}} & \frac{1}{\sqrt{6}} & \sqrt{\frac{5}{357}} & 0 \\ \frac{\sqrt{\frac{1543}{595}}}{2} & \frac{1}{\sqrt{15}} & \frac{1}{\sqrt{7}} & \frac{1}{2\sqrt{3}} & \frac{1}{\sqrt{17}} & 0 \\ \sqrt{\frac{386}{595}} & \sqrt{\frac{2}{35}} & \frac{2}{\sqrt{21}} & 0 & \sqrt{\frac{37}{357}} & 0 \\ \frac{\sqrt{\frac{397}{17}}}{6} & \frac{\sqrt{\frac{5}{21}}}{2} & \frac{1}{\sqrt{6}} & \frac{1}{2\sqrt{3}} & \sqrt{\frac{5}{357}} & \frac{1}{6} \\ 2\sqrt{\frac{869}{595}} & \frac{1}{2\sqrt{5}} & \sqrt{\frac{3}{14}} & 0 & \frac{1}{\sqrt{17}} & \frac{1}{6} \\ \frac{\sqrt{\frac{3478}{595}}}{3} & \sqrt{\frac{3}{70}} & \sqrt{\frac{5}{21}} & 0 & \sqrt{\frac{5}{357}} & \frac{1}{3\sqrt{2}} \\ \sqrt{\frac{767}{1190}} & \sqrt{\frac{11}{105}} & \frac{1}{\sqrt{21}} & \frac{1}{\sqrt{6}} & \sqrt{\frac{13}{357}} & 0 \\ \frac{\sqrt{\frac{307}{119}}}{2} & \sqrt{\frac{2}{21}} & \sqrt{\frac{2}{21}} & \frac{1}{2\sqrt{3}} & \sqrt{\frac{29}{357}} & 0 \\ 8\sqrt{\frac{6}{595}} & \sqrt{\frac{3}{35}} & \frac{1}{\sqrt{7}} & 0 & \sqrt{\frac{15}{119}} & 0 \\ \frac{\sqrt{\frac{13823}{595}}}{6} & \frac{\sqrt{\frac{37}{105}}}{2} & \sqrt{\frac{5}{42}} & \frac{1}{2\sqrt{3}} & \sqrt{\frac{13}{357}} & \frac{1}{6} \\ \sqrt{\frac{494}{595}} & \sqrt{\frac{11}{105}} & 1 & \frac{1}{2\sqrt{3}} & \sqrt{\frac{5}{357}} & 1 \end{pmatrix}$$

$\frac{\sqrt{83}}{3}$	$\frac{\sqrt{33}}{2}$	$\frac{1}{\sqrt{6}}$	0	$\sqrt{\frac{43}{357}}$	$\frac{1}{6}$
$2\sqrt{\frac{173}{119}}$	$\frac{1}{\sqrt{14}}$	$\frac{2}{\sqrt{21}}$	0	$\sqrt{\frac{13}{357}}$	$\frac{1}{3\sqrt{2}}$
$\sqrt{\frac{109}{170}}$	$\sqrt{\frac{2}{15}}$	0	$\frac{1}{\sqrt{6}}$	$\frac{1}{\sqrt{17}}$	0
$\frac{\sqrt{1527}}{\sqrt{595}}$	$\sqrt{\frac{13}{105}}$	$\frac{1}{\sqrt{21}}$	$\frac{1}{2\sqrt{3}}$	$\sqrt{\frac{37}{357}}$	0
$\frac{\sqrt{6871}}{\sqrt{1190}}$	$\frac{\sqrt{53}}{\sqrt{105}}$	$\frac{1}{\sqrt{42}}$	$\frac{1}{\sqrt{6}}$	$\sqrt{\frac{5}{357}}$	$\frac{1}{6}$
$\sqrt{\frac{382}{595}}$	$\frac{2}{\sqrt{35}}$	$\sqrt{\frac{2}{21}}$	0	$\sqrt{\frac{53}{357}}$	0
$\frac{\sqrt{13751}}{\sqrt{595}}$	$\frac{\sqrt{7}}{\sqrt{15}}$	$\frac{1}{\sqrt{14}}$	$\frac{1}{2\sqrt{3}}$	$\frac{1}{\sqrt{17}}$	$\frac{1}{6}$
$4\sqrt{\frac{43}{119}}$	$\frac{\sqrt{3}}{2}$	$\sqrt{\frac{5}{42}}$	0	$\sqrt{\frac{37}{357}}$	$\frac{1}{6}$
$\frac{\sqrt{13759}}{\sqrt{595}}$	$\sqrt{\frac{23}{210}}$	$\sqrt{\frac{2}{21}}$	$\frac{1}{2\sqrt{3}}$	$\sqrt{\frac{5}{357}}$	$\frac{1}{3\sqrt{2}}$
$\frac{\sqrt{3442}}{\sqrt{595}}$	$\frac{1}{\sqrt{10}}$	$\frac{1}{\sqrt{7}}$	0	$\frac{1}{\sqrt{17}}$	$\frac{1}{3\sqrt{2}}$
$2\sqrt{\frac{41}{255}}$	$\frac{\sqrt{13}}{2}$	$\frac{1}{\sqrt{6}}$	0	$\sqrt{\frac{5}{357}}$	$\frac{1}{2\sqrt{3}}$
$\frac{\sqrt{217}}{\sqrt{85}}$	$\frac{4}{\sqrt{105}}$	0	$\frac{1}{2\sqrt{3}}$	$\sqrt{\frac{15}{119}}$	0
$2\sqrt{\frac{19}{119}}$	$\frac{1}{\sqrt{7}}$	$\frac{1}{\sqrt{21}}$	0	$\sqrt{\frac{61}{357}}$	0
$\frac{\sqrt{13679}}{\sqrt{595}}$	$\frac{\sqrt{61}}{\sqrt{105}}$	$\frac{1}{\sqrt{42}}$	$\frac{1}{2\sqrt{3}}$	$\sqrt{\frac{29}{357}}$	$\frac{1}{6}$
$\frac{\sqrt{3422}}{\sqrt{595}}$	$\frac{\sqrt{19}}{\sqrt{35}}$	$\frac{1}{\sqrt{14}}$	0	$\sqrt{\frac{15}{119}}$	$\frac{1}{6}$
$\frac{\sqrt{13687}}{\sqrt{595}}$	$\sqrt{\frac{29}{210}}$	$\frac{1}{\sqrt{21}}$	$\frac{1}{2\sqrt{3}}$	$\sqrt{\frac{13}{357}}$	$\frac{1}{3\sqrt{2}}$
$4\sqrt{\frac{214}{595}}$	$\frac{3}{\sqrt{70}}$	$\sqrt{\frac{2}{21}}$	0	$\sqrt{\frac{29}{357}}$	$\frac{1}{3\sqrt{2}}$
$\sqrt{\frac{1142}{1785}}$	$\frac{\sqrt{17}}{\sqrt{35}}$	$\sqrt{\frac{5}{42}}$	0	$\sqrt{\frac{13}{357}}$	$\frac{1}{2\sqrt{3}}$
$3\sqrt{\frac{6}{85}}$	$\sqrt{\frac{6}{35}}$	0	0	$\sqrt{\frac{23}{119}}$	0
$2\sqrt{\frac{851}{595}}$	$\frac{\sqrt{23}}{\sqrt{35}}$	$\frac{1}{\sqrt{42}}$	0	$\sqrt{\frac{53}{357}}$	$\frac{1}{6}$
$\frac{\sqrt{389}}{\sqrt{17}}$	$\frac{1}{\sqrt{6}}$	0	$\frac{1}{2\sqrt{3}}$	$\frac{1}{\sqrt{17}}$	$\frac{1}{3\sqrt{2}}$
$\frac{\sqrt{3406}}{\sqrt{595}}$	$\sqrt{\frac{11}{70}}$	$\frac{1}{\sqrt{21}}$	0	$\sqrt{\frac{37}{357}}$	$\frac{1}{3\sqrt{2}}$
$\frac{\sqrt{4541}}{\sqrt{1785}}$	$\frac{\sqrt{67}}{\sqrt{105}}$	$\frac{1}{\sqrt{42}}$	$\frac{1}{2\sqrt{3}}$	$\sqrt{\frac{5}{357}}$	$\frac{1}{2\sqrt{3}}$
$4\sqrt{\frac{71}{1785}}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{14}}$	0	$\frac{1}{\sqrt{17}}$	$\frac{1}{2\sqrt{3}}$
$\frac{\sqrt{682}}{\sqrt{119}}$	$\frac{1}{\sqrt{7}}$	$\sqrt{\frac{2}{21}}$	0	$\sqrt{\frac{5}{357}}$	$\frac{1}{3}$
$\frac{22}{3\sqrt{85}}$	$\sqrt{\frac{13}{70}}$	0	0	$\sqrt{\frac{15}{119}}$	$\frac{1}{3\sqrt{2}}$
$\sqrt{\frac{226}{357}}$	$\frac{\sqrt{5}}{2}$	$\frac{1}{\sqrt{42}}$	0	$\sqrt{\frac{29}{357}}$	$\frac{1}{2\sqrt{3}}$

$$\begin{pmatrix} \frac{8\sqrt{\frac{53}{595}}}{3} & \sqrt{\frac{6}{35}} & \frac{1}{\sqrt{21}} & 0 & \sqrt{\frac{13}{357}} & \frac{1}{3} \\ \frac{\sqrt{\frac{482}{85}}}{3} & \frac{1}{\sqrt{5}} & 0 & 0 & \frac{1}{\sqrt{17}} & \frac{1}{3} \\ \frac{4\sqrt{\frac{211}{595}}}{3} & \frac{3\sqrt{\frac{3}{35}}}{2} & \frac{1}{\sqrt{42}} & 0 & \sqrt{\frac{5}{357}} & \frac{\sqrt{5}}{6} \end{pmatrix}$$

Dimensions[angle11]

{45, 6}

orderedroots[minipoly[chi11]]

{-5, 5, 9, 11, 12, 13}

chi11

$(-13 + x) (-12 + x) (-11 + x)^2 (-9 + x)^{12} (-5 + x) (5 + x)^{32}$

coeff[chi11, (x + 5) (x - 9) (x - 11)] // FullSimplify

{240, 51, 144}

combinationangle[{240, 51, 144}, {1, 11}, {2, 5, 6}, angle11] // FullSimplify

$\left\{ \frac{1}{7} (5 + 24 \sqrt{2}), \frac{1}{7} (5 + 24 \sqrt{2}), \frac{1}{7} (-5 + 24 \sqrt{2}), \frac{1}{7} (-5 + 24 \sqrt{2}) \right\}$

compatible $\left[\left\{ \frac{1}{7} (5 + 24 \sqrt{2}), \frac{1}{7} (5 + 24 \sqrt{2}), \frac{1}{7} (-5 + 24 \sqrt{2}), \frac{1}{7} (-5 + 24 \sqrt{2}) \right\} \right]$

0