

# Solução do Problema sierra - Solver HiGHS

Análise Computacional

16 de setembro de 2025

## 1 Informações do Problema

### Informações do Problema:

- Nome: sierra
- Número de Variáveis: 2036
- Número de Restrições: 1227
- Inviabilidade Primal: 4.547e-13
- Inviabilidade Dual: 6.821e-13
- Valor Primal: 1.539e+07
- Valor Dual: 1.539e+07
- Gap: 2.751e-23
- Número de Iterações: 22

## 2 Variáveis Primais e Custos Reduzidos

Tabela 1: Variáveis primais e custos reduzidos do problema sierra

Coordenada x	Valor x	Coordenada z	Valor z
1	33.630000	1	0.000000
2	707.390000	2	0.000000
3	33.630000	3	0.000000
4	817.390000	4	0.000000
5	33.630000	5	0.000000
6	927.390000	6	0.000000
7	33.630000	7	0.000000
8	1097.390000	8	0.000000
9	33.630000	9	0.000000
10	1197.390000	10	0.000000
11	90.890000	11	0.000000
12	578.710000	12	0.000000

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Coordenada x	Valor x	Coordenada z	Valor z
13	90.890000	13	0.000000
14	1078.710000	14	0.000000
15	90.890000	15	0.000000
16	2078.710000	16	0.000000
17	90.890000	17	0.000000
18	2078.710000	18	0.000000
19	90.890000	19	0.000000
20	2078.710000	20	0.000000
21	-0.000000	21	0.000000
22	-0.000000	22	0.000000
23	-0.000000	23	0.000000
24	-0.000000	24	0.000000
25	-0.000000	25	0.000000
26	-0.000000	26	0.000000
27	-0.000000	27	0.000000
28	-0.000000	28	0.000000
29	-0.000000	29	0.000000
30	-0.000000	30	0.000000
31	-0.000000	31	0.000000
32	-0.000000	32	0.000000
33	-0.000000	33	0.000000
34	-0.000000	34	0.000000
35	-0.000000	35	0.000000
36	-0.000000	36	0.000000
37	-0.000000	37	0.000000
38	-0.000000	38	0.000000
39	-0.000000	39	0.000000
40	-0.000000	40	0.000000
41	0.000000	41	-347.090000
42	0.000000	42	-133.820000
43	0.000000	43	-51.590000
44	0.000000	44	-19.890000
45	0.000000	45	-7.670000
46	54.390000	46	0.000000
47	54.390000	47	0.000000
48	54.390000	48	0.000000
49	54.390000	49	0.000000
50	54.390000	50	0.000000
51	0.000000	51	2938.200000
52	0.000000	52	1132.800000
53	0.000000	53	436.740000
54	0.000000	54	168.380000
55	0.000000	55	64.920000
56	551.730000	56	0.000000
57	551.730000	57	0.000000
58	551.730000	58	0.000000
59	551.730000	59	0.000000
60	551.730000	60	0.000000
61	536.700000	61	0.000000

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Coordenada x	Valor x	Coordenada z	Valor z
62	536.700000	62	0.000000
63	536.700000	63	0.000000
64	536.700000	64	0.000000
65	536.700000	65	0.000000
66	33.630000	66	0.000000
67	33.630000	67	0.000000
68	33.630000	68	0.000000
69	33.630000	69	0.000000
70	33.630000	70	0.000000
71	536.700000	71	0.000000
72	536.700000	72	0.000000
73	536.700000	73	0.000000
74	536.700000	74	0.000000
75	536.700000	75	0.000000
76	33.630000	76	0.000000
77	33.630000	77	0.000000
78	33.630000	78	0.000000
79	33.630000	79	0.000000
80	33.630000	80	0.000000
81	-0.000000	81	0.000000
82	0.000000	82	374.339420
83	0.000000	83	143.895350
84	0.000000	84	54.975350
85	0.000000	85	20.695350
86	-0.000000	86	0.000000
87	0.000000	87	2645.019420
88	0.000000	88	1019.235350
89	0.000000	89	392.495350
90	0.000000	90	150.805350
91	536.700000	91	0.000000
92	536.700000	92	0.000000
93	536.700000	93	0.000000
94	536.700000	94	0.000000
95	536.700000	95	0.000000
96	33.630000	96	0.000000
97	33.630000	97	0.000000
98	33.630000	98	0.000000
99	33.630000	99	0.000000
100	33.630000	100	0.000000
101	-0.000000	101	0.000000
102	-0.000000	102	0.000000
103	-0.000000	103	0.000000
104	-0.000000	104	0.000000
105	-0.000000	105	0.000000
106	-0.000000	106	0.000000
107	-0.000000	107	0.000000
108	-0.000000	108	0.000000
109	-0.000000	109	0.000000
110	-0.000000	110	0.000000

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Coordenada x	Valor x	Coordenada z	Valor z
111	-0.000000	111	0.000000
112	-0.000000	112	0.000000
113	-0.000000	113	0.000000
114	-0.000000	114	0.000000
115	-0.000000	115	0.000000
116	-0.000000	116	0.000000
117	-0.000000	117	0.000000
118	-0.000000	118	0.000000
119	-0.000000	119	0.000000
120	-0.000000	120	0.000000
121	0.000000	121	118.839420
122	-0.000000	122	0.000000
123	-0.000000	123	0.000000
124	-0.000000	124	0.000000
125	-0.000000	125	0.000000
126	0.000000	126	792.179420
127	-0.000000	127	0.000000
128	-0.000000	128	0.000000
129	-0.000000	129	0.000000
130	-0.000000	130	0.000000
131	707.390000	131	0.000000
132	817.390000	132	0.000000
133	927.390000	133	0.000000
134	1097.390000	134	0.000000
135	1197.390000	135	0.000000
136	33.630000	136	0.000000
137	33.630000	137	0.000000
138	33.630000	138	0.000000
139	33.630000	139	0.000000
140	33.630000	140	0.000000
141	170.690000	141	0.000000
142	280.690000	142	0.000000
143	390.690000	143	0.000000
144	560.690000	144	0.000000
145	660.690000	145	0.000000
146	0.000000	146	268.300000
147	0.000000	147	103.530000
148	0.000000	148	39.870000
149	0.000000	149	15.370000
150	0.000000	150	5.930000
151	0.000000	151	614.720000
152	0.000000	152	237.000000
153	0.000000	153	91.380000
154	0.000000	154	35.220000
155	0.000000	155	13.580000
156	0.000000	156	4099.400000
157	0.000000	157	1580.460000
158	0.000000	158	609.340000
159	0.000000	159	234.920000

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Coordenada x	Valor x	Coordenada z	Valor z
160	0.000000	160	90.580000
161	-0.000000	161	0.000000
162	-0.000000	162	0.000000
163	-0.000000	163	0.000000
164	-0.000000	164	0.000000
165	-0.000000	165	0.000000
166	0.000000	166	26286.662680
167	0.000000	167	10134.678260
168	0.000000	168	3907.372825
169	0.000000	169	1506.552825
170	0.000000	170	580.952825
171	170.690000	171	0.000000
172	280.690000	172	0.000000
173	390.690000	173	0.000000
174	560.690000	174	0.000000
175	660.690000	175	0.000000
176	-0.000000	176	0.000000
177	-0.000000	177	0.000000
178	-0.000000	178	0.000000
179	-0.000000	179	0.000000
180	-0.000000	180	0.000000
181	0.000000	181	306.110000
182	0.000000	182	118.020000
183	0.000000	183	45.500000
184	0.000000	184	17.530000
185	0.000000	185	6.770000
186	42.350000	186	0.000000
187	42.350000	187	0.000000
188	42.350000	188	0.000000
189	42.350000	189	0.000000
190	42.350000	190	0.000000
191	0.000000	191	5687.100000
192	0.000000	192	2192.590000
193	0.000000	193	845.340000
194	0.000000	194	325.920000
195	0.000000	195	125.650000
196	0.000000	196	37957.000000
197	0.000000	197	14634.200000
198	0.000000	198	5642.100000
199	0.000000	199	2175.290000
200	0.000000	200	838.670000
201	0.000000	201	413.540000
202	0.000000	202	159.430000
203	0.000000	203	61.460000
204	0.000000	204	23.690000
205	0.000000	205	9.140000
206	0.000000	206	-35372.562680
207	0.000000	207	-13637.648260
208	0.000000	208	-5257.932825

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Coordenada x	Valor x	Coordenada z	Valor z
209	0.000000	209	-2027.252825
210	0.000000	210	-781.702825
211	-0.000000	211	0.000000
212	-0.000000	212	0.000000
213	-0.000000	213	0.000000
214	-0.000000	214	0.000000
215	-0.000000	215	0.000000
216	-0.000000	216	0.000000
217	-0.000000	217	0.000000
218	-0.000000	218	0.000000
219	-0.000000	219	0.000000
220	-0.000000	220	0.000000
221	0.000000	221	4592.400000
222	0.000000	222	1770.550000
223	0.000000	223	682.620000
224	0.000000	224	263.190000
225	0.000000	225	101.470000
226	0.000000	226	35884.200000
227	0.000000	227	13834.900000
228	0.000000	228	5333.940000
229	0.000000	229	2056.480000
230	0.000000	230	792.860000
231	178.120000	231	0.000000
232	178.120000	232	0.000000
233	178.120000	233	0.000000
234	178.120000	234	0.000000
235	178.120000	235	0.000000
236	48.230000	236	0.000000
237	48.230000	237	0.000000
238	48.230000	238	0.000000
239	48.230000	239	0.000000
240	48.230000	240	0.000000
241	119.120000	241	0.000000
242	119.120000	242	0.000000
243	119.120000	243	0.000000
244	119.120000	244	0.000000
245	119.120000	245	0.000000
246	5.880000	246	0.000000
247	5.880000	247	0.000000
248	5.880000	248	0.000000
249	5.880000	249	0.000000
250	5.880000	250	0.000000
251	-0.000000	251	0.000000
252	-0.000000	252	0.000000
253	-0.000000	253	0.000000
254	-0.000000	254	0.000000
255	-0.000000	255	0.000000
256	-0.000000	256	0.000000
257	-0.000000	257	0.000000

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Coordenada x	Valor x	Coordenada z	Valor z
258	-0.000000	258	0.000000
259	-0.000000	259	0.000000
260	-0.000000	260	0.000000
261	0.000000	261	5218.300000
262	0.000000	262	2011.840000
263	0.000000	263	775.660000
264	0.000000	264	299.050000
265	0.000000	265	115.290000
266	0.000000	266	28641.100000
267	0.000000	267	11042.720000
268	0.000000	268	4257.360000
269	0.000000	269	1641.430000
270	0.000000	270	632.830000
271	0.000000	271	2990.400000
272	0.000000	272	1152.920000
273	0.000000	273	444.500000
274	0.000000	274	171.380000
275	0.000000	275	66.080000
276	0.000000	276	20342.000000
277	0.000000	277	7842.400000
278	0.000000	278	3023.600000
279	0.000000	279	1165.740000
280	0.000000	280	449.440000
281	0.000000	281	5504.566300
282	0.000000	282	2122.252309
283	0.000000	283	818.224987
284	0.000000	284	315.544987
285	0.000000	285	121.714987
286	0.000000	286	39132.106300
287	0.000000	287	15087.072309
288	0.000000	288	5816.724987
289	0.000000	289	2242.644987
290	0.000000	290	864.714987
291	110.000000	291	0.000000
292	220.000000	292	0.000000
293	330.000000	293	0.000000
294	500.000000	294	0.000000
295	600.000000	295	0.000000
296	22.750000	296	0.000000
297	22.750000	297	0.000000
298	22.750000	298	0.000000
299	22.750000	299	0.000000
300	22.750000	300	0.000000
301	0.000000	301	1281.580000
302	0.000000	302	494.100000
303	0.000000	303	190.500000
304	0.000000	304	73.440000
305	0.000000	305	28.320000
306	0.000000	306	8553.800000

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Coordenada x	Valor x	Coordenada z	Valor z
307	0.000000	307	3297.800000
308	0.000000	308	1271.460000
309	0.000000	309	490.200000
310	0.000000	310	189.000000
311	-0.000000	311	0.000000
312	-0.000000	312	0.000000
313	-0.000000	313	0.000000
314	-0.000000	314	0.000000
315	-0.000000	315	0.000000
316	-0.000000	316	0.000000
317	-0.000000	317	0.000000
318	-0.000000	318	0.000000
319	-0.000000	319	0.000000
320	-0.000000	320	0.000000
321	10.000000	321	0.000000
322	20.000000	322	0.000000
323	30.000000	323	0.000000
324	100.000000	324	0.000000
325	100.000000	325	0.000000
326	14.730000	326	0.000000
327	14.730000	327	0.000000
328	14.730000	328	0.000000
329	14.730000	329	0.000000
330	14.730000	330	0.000000
331	0.000000	331	3365.400000
332	0.000000	332	1297.500000
333	0.000000	333	500.240000
334	0.000000	334	192.860000
335	0.000000	335	74.360000
336	0.000000	336	22884.000000
337	0.000000	337	8823.000000
338	0.000000	338	3401.600000
339	0.000000	339	1311.480000
340	0.000000	340	505.640000
341	551.730000	341	0.000000
342	551.730000	342	0.000000
343	551.730000	343	0.000000
344	551.730000	344	0.000000
345	551.730000	345	0.000000
346	-0.000000	346	0.000000
347	-0.000000	347	0.000000
348	-0.000000	348	0.000000
349	-0.000000	349	0.000000
350	-0.000000	350	0.000000
351	118.610000	351	0.000000
352	118.610000	352	0.000000
353	118.610000	353	0.000000
354	118.610000	354	0.000000
355	118.610000	355	0.000000

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Coordenada x	Valor x	Coordenada z	Valor z
356	0.000000	356	7379.900000
357	0.000000	357	2845.270000
358	0.000000	358	1096.960000
359	0.000000	359	422.910000
360	0.000000	360	163.070000
361	0.000000	361	3572.810000
362	0.000000	362	1377.460000
363	0.000000	363	531.060000
364	0.000000	364	204.760000
365	0.000000	365	78.940000
366	0.000000	366	30946.000000
367	0.000000	367	11931.180000
368	0.000000	368	4599.940000
369	0.000000	369	1773.470000
370	0.000000	370	683.770000
371	118.610000	371	0.000000
372	118.610000	372	0.000000
373	118.610000	373	0.000000
374	118.610000	374	0.000000
375	118.610000	375	0.000000
376	-0.000000	376	0.000000
377	-0.000000	377	0.000000
378	-0.000000	378	0.000000
379	-0.000000	379	0.000000
380	-0.000000	380	0.000000
381	-0.000000	381	0.000000
382	-0.000000	382	0.000000
383	-0.000000	383	0.000000
384	-0.000000	384	0.000000
385	-0.000000	385	0.000000
386	-0.000000	386	0.000000
387	-0.000000	387	0.000000
388	-0.000000	388	0.000000
389	-0.000000	389	0.000000
390	-0.000000	390	0.000000
391	118.610000	391	0.000000
392	118.610000	392	0.000000
393	118.610000	393	0.000000
394	118.610000	394	0.000000
395	118.610000	395	0.000000
396	-0.000000	396	0.000000
397	-0.000000	397	0.000000
398	-0.000000	398	0.000000
399	-0.000000	399	0.000000
400	-0.000000	400	0.000000
401	0.000000	401	298.090000
402	0.000000	402	114.950000
403	0.000000	403	44.300000
404	0.000000	404	17.080000

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Coordenada x	Valor x	Coordenada z	Valor z
405	0.000000	405	6.590000
406	0.000000	406	2033.000000
407	0.000000	407	784.000000
408	0.000000	408	302.270000
409	0.000000	409	116.490000
410	0.000000	410	44.930000
411	255.000000	411	0.000000
412	255.000000	412	0.000000
413	255.000000	413	0.000000
414	255.000000	414	0.000000
415	255.000000	415	0.000000
416	6.160000	416	0.000000
417	6.160000	417	0.000000
418	6.160000	418	0.000000
419	6.160000	419	0.000000
420	6.160000	420	0.000000
421	194.800000	421	0.000000
422	194.800000	422	0.000000
423	194.800000	423	0.000000
424	194.800000	424	0.000000
425	194.800000	425	0.000000
426	6.160000	426	0.000000
427	6.160000	427	0.000000
428	6.160000	428	0.000000
429	6.160000	429	0.000000
430	6.160000	430	0.000000
431	167.780000	431	0.000000
432	167.780000	432	0.000000
433	167.780000	433	0.000000
434	167.780000	434	0.000000
435	167.780000	435	0.000000
436	6.160000	436	0.000000
437	6.160000	437	0.000000
438	6.160000	438	0.000000
439	6.160000	439	0.000000
440	6.160000	440	0.000000
441	0.000000	441	5158.600000
442	0.000000	442	1988.860000
443	0.000000	443	766.800000
444	0.000000	444	295.640000
445	0.000000	445	113.980000
446	0.000000	446	35090.000000
447	0.000000	447	13528.600000
448	0.000000	448	5215.800000
449	0.000000	449	2011.000000
450	0.000000	450	775.300000
451	0.000000	451	7326.910000
452	0.000000	452	2824.850000
453	0.000000	453	1089.100000

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Coordenada x	Valor x	Coordenada z	Valor z
454	0.000000	454	419.900000
455	0.000000	455	161.890000
456	0.000000	456	49837.000000
457	0.000000	457	19214.400000
458	0.000000	458	7407.930000
459	0.000000	459	2856.110000
460	0.000000	460	1101.150000
461	0.000000	461	6301.700000
462	0.000000	462	2429.590000
463	0.000000	463	936.700000
464	0.000000	464	361.150000
465	0.000000	465	139.240000
466	0.000000	466	49245.400000
467	0.000000	467	18986.080000
468	0.000000	468	7319.840000
469	0.000000	469	2822.160000
470	0.000000	470	1088.070000
471	167.780000	471	0.000000
472	167.780000	472	0.000000
473	167.780000	473	0.000000
474	167.780000	474	0.000000
475	167.780000	475	0.000000
476	6.160000	476	0.000000
477	6.160000	477	0.000000
478	6.160000	478	0.000000
479	6.160000	479	0.000000
480	6.160000	480	0.000000
481	167.780000	481	0.000000
482	167.780000	482	0.000000
483	167.780000	483	0.000000
484	167.780000	484	0.000000
485	167.780000	485	0.000000
486	6.160000	486	0.000000
487	6.160000	487	0.000000
488	6.160000	488	0.000000
489	6.160000	489	0.000000
490	6.160000	490	0.000000
491	-0.000000	491	0.000000
492	-0.000000	492	0.000000
493	-0.000000	493	0.000000
494	-0.000000	494	0.000000
495	-0.000000	495	0.000000
496	-0.000000	496	0.000000
497	-0.000000	497	0.000000
498	-0.000000	498	0.000000
499	-0.000000	499	0.000000
500	-0.000000	500	0.000000
501	0.000000	501	1426.566770
502	0.000000	502	549.992130

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Coordenada x	Valor x	Coordenada z	Valor z
503	0.000000	503	212.026963
504	0.000000	504	81.536963
505	0.000000	505	31.246963
506	0.000000	506	7482.426770
507	0.000000	507	2884.762130
508	0.000000	508	1112.016963
509	0.000000	509	428.606963
510	0.000000	510	165.046963
511	0.000000	511	13.650000
512	0.000000	512	5.270000
513	0.000000	513	2.030000
514	0.000000	514	0.790000
515	0.000000	515	0.300000
516	0.000000	516	12513.500000
517	0.000000	517	4824.460000
518	0.000000	518	1860.080000
519	0.000000	519	717.130000
520	0.000000	520	276.480000
521	0.000000	521	627.760000
522	0.000000	522	242.030000
523	0.000000	523	93.310000
524	0.000000	524	35.990000
525	0.000000	525	13.870000
526	0.000000	526	18929.400000
527	0.000000	527	7298.200000
528	0.000000	528	2813.800000
529	0.000000	529	994.010000
530	0.000000	530	383.230000
531	78.710000	531	0.000000
532	78.710000	532	0.000000
533	78.710000	533	0.000000
534	78.710000	534	0.000000
535	78.710000	535	0.000000
536	0.000000	536	13187.200000
537	0.000000	537	5084.200000
538	0.000000	538	1960.180000
539	0.000000	539	755.740000
540	0.000000	540	291.360000
541	0.000000	541	1108.340000
542	0.000000	542	427.310000
543	0.000000	543	164.750000
544	0.000000	544	63.510000
545	0.000000	545	24.490000
546	-0.000000	546	0.000000
547	-0.000000	547	0.000000
548	-0.000000	548	0.000000
549	0.000000	549	90.810000
550	0.000000	550	35.010000
551	119.120000	551	0.000000

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Coordenada x	Valor x	Coordenada z	Valor z
552	119.120000	552	0.000000
553	119.120000	553	0.000000
554	119.120000	554	0.000000
555	119.120000	555	0.000000
556	5.880000	556	0.000000
557	5.880000	557	0.000000
558	5.880000	558	0.000000
559	5.880000	559	0.000000
560	5.880000	560	0.000000
561	118.610000	561	0.000000
562	118.610000	562	0.000000
563	118.610000	563	0.000000
564	118.610000	564	0.000000
565	118.610000	565	0.000000
566	-0.000000	566	0.000000
567	-0.000000	567	0.000000
568	-0.000000	568	0.000000
569	-0.000000	569	0.000000
570	-0.000000	570	0.000000
571	0.000000	571	3914.190000
572	0.000000	572	1509.110000
573	0.000000	573	581.810000
574	0.000000	574	224.320000
575	0.000000	575	86.500000
576	0.000000	576	32830.400000
577	0.000000	577	12657.480000
578	0.000000	578	4879.910000
579	0.000000	579	1881.480000
580	0.000000	580	725.390000
581	0.000000	581	1975.780000
582	0.000000	582	761.740000
583	0.000000	583	293.680000
584	0.000000	584	113.220000
585	0.000000	585	43.660000
586	-0.000000	586	0.000000
587	-0.000000	587	0.000000
588	-0.000000	588	0.000000
589	-0.000000	589	0.000000
590	-0.000000	590	0.000000
591	578.710000	591	0.000000
592	1078.710000	592	0.000000
593	2078.710000	593	0.000000
594	2078.710000	594	0.000000
595	2078.710000	595	0.000000
596	90.890000	596	0.000000
597	90.890000	597	0.000000
598	90.890000	598	0.000000
599	90.890000	599	0.000000
600	90.890000	600	0.000000

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Coordenada x	Valor x	Coordenada z	Valor z
601	500.000000	601	0.000000
602	1000.000000	602	0.000000
603	2000.000000	603	0.000000
604	2000.000000	604	0.000000
605	2000.000000	605	0.000000
606	90.890000	606	0.000000
607	90.890000	607	0.000000
608	90.890000	608	0.000000
609	90.890000	609	0.000000
610	90.890000	610	0.000000
611	0.000000	611	9291.500000
612	0.000000	612	3582.310000
613	0.000000	613	1381.100000
614	0.000000	614	532.480000
615	0.000000	615	205.290000
616	0.000000	616	62015.000000
617	0.000000	617	23909.400000
618	0.000000	618	9218.100000
619	0.000000	619	3554.010000
620	0.000000	620	1370.190000
621	10.000000	621	0.000000
622	20.000000	622	0.000000
623	30.000000	623	0.000000
624	100.000000	624	0.000000
625	100.000000	625	0.000000
626	14.730000	626	0.000000
627	14.730000	627	0.000000
628	14.730000	628	0.000000
629	14.730000	629	0.000000
630	14.730000	630	0.000000
631	0.000000	631	373.800000
632	0.000000	632	144.110000
633	0.000000	633	55.560000
634	0.000000	634	21.420000
635	0.000000	635	8.260000
636	0.000000	636	2495.000000
637	0.000000	637	961.900000
638	0.000000	638	370.900000
639	0.000000	639	142.980000
640	0.000000	640	55.130000
641	-0.000000	641	0.000000
642	-0.000000	642	0.000000
643	-0.000000	643	0.000000
644	-0.000000	644	0.000000
645	-0.000000	645	0.000000
646	-0.000000	646	0.000000
647	-0.000000	647	0.000000
648	-0.000000	648	0.000000
649	-0.000000	649	0.000000

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Coordenada x	Valor x	Coordenada z	Valor z
650	-0.000000	650	0.000000
651	0.003907	651	0.000000
652	0.000000	652	3664.662460
653	107.860000	653	0.000000
654	0.000000	654	24910.062460
655	0.000000	655	9.200000
656	0.000000	656	1010.542460
657	270.230000	657	0.000000
658	0.000000	658	6734.462460
659	12.630000	659	0.000000
660	0.000000	660	390.256330
661	0.000000	661	0.126130
662	0.000000	662	2597.136330
663	0.000000	663	0.126130
664	0.000000	664	151.156330
665	0.000000	665	0.126130
666	0.000000	666	1001.976330
667	0.000000	667	0.126130
668	0.000000	668	58.976330
669	0.000000	669	0.126130
670	0.000000	670	386.996330
671	0.000000	671	0.126130
672	0.011236	672	0.000000
673	0.000000	673	3664.536330
674	125.000000	674	-0.126130
675	0.000000	675	24909.936330
676	0.000000	676	9.073870
677	0.000000	677	1211.986330
678	0.000000	678	201.443870
679	0.000000	679	8171.336330
680	0.000000	680	1436.873870
681	0.000000	681	390.130200
682	320.230000	682	0.000000
683	0.000000	683	2597.010200
684	12.630000	684	0.000000
685	0.000000	685	151.030200
686	320.230000	686	0.000000
687	0.000000	687	1001.850200
688	12.630000	688	0.000000
689	0.000000	689	58.850200
690	320.230000	690	0.000000
691	0.000000	691	386.870200
692	12.630000	692	0.000000
693	0.000500	693	0.000000
694	0.000000	694	3664.662460
695	50.000000	695	-0.000000
696	0.000000	696	24900.862460
697	-0.000000	697	0.000000
698	0.000000	698	1211.645450

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Coordenada x	Valor x	Coordenada z	Valor z
699	0.000000	699	201.102990
700	0.000000	700	8170.995450
701	0.000000	701	1436.532990
702	0.000000	702	467.499320
703	0.000000	703	77.369120
704	0.000000	704	3150.669320
705	0.000000	705	553.659120
706	0.000000	706	180.649320
707	0.000000	707	29.619120
708	0.000000	708	1215.119320
709	0.000000	709	213.269120
710	0.000000	710	70.059320
711	0.000000	711	11.209120
712	0.000000	712	468.889320
713	0.000000	713	82.019120
714	0.001000	714	0.000000
715	0.000000	715	3664.662460
716	37.370000	716	0.000000
717	0.000000	717	24900.862460
718	12.630000	718	0.000000
719	0.000000	719	1009.974545
720	50.000000	720	-0.567915
721	0.000000	721	7965.494545
722	0.000000	722	1231.032085
723	0.000000	723	467.398415
724	0.000000	724	77.268215
725	0.000000	725	3150.568415
726	0.000000	726	553.558215
727	0.000000	727	180.548415
728	0.000000	728	29.518215
729	0.000000	729	1215.018415
730	0.000000	730	213.168215
731	0.000000	731	69.958415
732	0.000000	732	11.108215
733	0.000000	733	468.788415
734	0.000000	734	81.918215
735	0.983357	735	0.000000
736	0.000000	736	3664.662460
737	50.000000	737	0.000000
738	0.000000	738	24900.862460
739	0.000000	739	0.000000
740	0.000000	740	1009.911230
741	50.000000	741	-0.631230
742	0.000000	742	7965.431230
743	0.000000	743	1230.968770
744	0.000000	744	389.625100
745	50.000000	745	-0.505100
746	0.000000	746	3071.305100
747	0.000000	747	474.294900

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Coordenada x	Valor x	Coordenada z	Valor z
748	0.000000	748	150.525100
749	50.000000	749	-0.505100
750	0.000000	750	1184.425100
751	0.000000	751	182.574900
752	0.000000	752	58.345100
753	50.000000	753	-0.505100
754	0.000000	754	456.955100
755	0.000000	755	70.084900
756	0.003907	756	0.000000
757	0.000000	757	2319.398700
758	107.860000	758	0.000000
759	0.000000	759	15759.788700
760	0.000000	760	6.210000
761	0.000000	761	639.498700
762	270.230000	762	0.000000
763	0.000000	763	4260.598700
764	12.630000	764	0.000000
765	0.000000	765	246.958900
766	0.000000	766	0.079800
767	0.000000	767	1643.038900
768	0.000000	768	0.079800
769	0.000000	769	95.658900
770	0.000000	770	0.079800
771	0.000000	771	633.898900
772	0.000000	772	0.079800
773	0.000000	773	37.318900
774	0.000000	774	0.079800
775	0.000000	775	244.838900
776	0.000000	776	0.079800
777	0.011236	777	0.000000
778	0.000000	778	2319.318900
779	125.000000	779	-0.079800
780	0.000000	780	15759.708900
781	0.000000	781	6.130200
782	0.000000	782	767.008900
783	0.000000	783	127.510200
784	0.000000	784	5169.718900
785	0.000000	785	909.120200
786	0.000000	786	246.879100
787	320.230000	787	0.000000
788	0.000000	788	1642.959100
789	12.630000	789	0.000000
790	0.000000	790	95.579100
791	320.230000	791	0.000000
792	0.000000	792	633.819100
793	12.630000	793	0.000000
794	0.000000	794	37.239100
795	320.230000	795	0.000000
796	0.000000	796	244.759100

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Coordenada x	Valor x	Coordenada z	Valor z
797	12.630000	797	0.000000
798	0.000500	798	0.000000
799	0.000000	799	2319.398700
800	50.000000	800	-0.000000
801	0.000000	801	15753.578700
802	-0.000000	802	0.000000
803	0.000000	803	766.793250
804	0.000000	804	127.294550
805	0.000000	805	5169.503250
806	0.000000	806	908.904550
807	0.000000	807	295.863450
808	0.000000	808	48.984350
809	0.000000	809	1993.283450
810	0.000000	810	350.324350
811	0.000000	811	114.333450
812	0.000000	812	18.754350
813	0.000000	813	768.753450
814	0.000000	814	134.934350
815	0.000000	815	44.333450
816	0.000000	816	7.094350
817	0.000000	817	296.653450
818	0.000000	818	51.894350
819	0.001000	819	0.000000
820	0.000000	820	2319.398700
821	50.000000	821	0.000000
822	0.000000	822	15753.578700
823	0.000000	823	0.000000
824	0.000000	824	639.139407
825	50.000000	825	-0.359293
826	0.000000	826	5039.439407
827	0.000000	827	778.840707
828	0.000000	828	295.799607
829	0.000000	829	48.920507
830	0.000000	830	1993.219607
831	0.000000	831	350.260507
832	0.000000	832	114.269607
833	0.000000	833	18.690507
834	0.000000	834	768.689607
835	0.000000	835	134.870507
836	0.000000	836	44.269607
837	0.000000	837	7.030507
838	0.000000	838	296.589607
839	0.000000	839	51.830507
840	0.983357	840	0.000000
841	0.000000	841	2319.398700
842	37.370000	842	0.000000
843	0.000000	843	15753.578700
844	12.630000	844	0.000000
845	0.000000	845	639.099350

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Coordenada x	Valor x	Coordenada z	Valor z
846	50.000000	846	-0.399350
847	0.000000	847	5039.399350
848	0.000000	848	778.800650
849	0.000000	849	246.559550
850	50.000000	850	-0.319550
851	0.000000	851	1943.079550
852	0.000000	852	300.120450
853	0.000000	853	95.259550
854	50.000000	854	-0.319550
855	0.000000	855	749.329550
856	0.000000	856	115.510450
857	0.000000	857	36.919550
858	50.000000	858	-0.319550
859	0.000000	859	289.099550
860	0.000000	860	44.340450
861	0.000000	861	40857.000000
862	0.000000	862	3012.700000
863	0.000000	863	501.700000
864	0.000000	864	13471.220580
865	0.000000	865	10430.779420
866	0.000000	866	929.560000
867	0.000000	867	425.400000
868	0.000000	868	5499.160000
869	0.000000	869	3716.040000
870	0.000000	870	358.380000
871	0.000000	871	164.020000
872	0.000000	872	2120.020000
873	0.000000	873	1432.780000
874	0.000000	874	138.170000
875	0.000000	875	63.230000
876	0.000000	876	817.410000
877	0.000000	877	552.370000
878	0.000000	878	66.570000
879	0.000000	879	11.090000
880	0.000000	880	315.140000
881	0.000000	881	212.960000
882	-0.000000	882	0.000000
883	0.000000	883	2511.157520
884	0.000000	884	0.157520
885	0.000000	885	12960.378100
886	0.000000	886	9919.936940
887	0.000000	887	929.717520
888	0.000000	888	425.557520
889	0.000000	889	5499.317520
890	0.000000	890	3716.197520
891	0.000000	891	358.537520
892	0.000000	892	164.177520
893	0.000000	893	2120.177520
894	0.000000	894	1432.937520

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Coordenada x	Valor x	Coordenada z	Valor z
895	0.000000	895	138.327520
896	0.000000	896	63.387520
897	0.000000	897	817.567520
898	0.000000	898	552.527520
899	0.000000	899	66.727520
900	0.000000	900	11.247520
901	0.000000	901	315.297520
902	0.000000	902	213.117520
903	0.000000	903	6073.100000
904	0.000000	904	2511.000000
905	0.000000	905	0.000000
906	0.000000	906	12960.220580
907	0.000000	907	9919.779420
908	0.000000	908	736.130000
909	0.000000	909	231.970000
910	0.000000	910	5302.160000
911	0.000000	911	3519.040000
912	0.000000	912	358.380000
913	0.000000	913	164.020000
914	0.000000	914	2120.020000
915	0.000000	915	1432.780000
916	0.000000	916	138.170000
917	0.000000	917	63.230000
918	0.000000	918	817.410000
919	0.000000	919	552.370000
920	0.000000	920	66.570000
921	0.000000	921	11.090000
922	0.000000	922	315.140000
923	0.000000	923	212.960000
924	1.000000	924	0.000000
925	0.000000	925	2511.000000
926	-0.000000	926	0.000000
927	0.000000	927	12960.220580
928	0.000000	928	9919.779420
929	0.000000	929	736.130000
930	0.000000	930	231.970000
931	0.000000	931	5302.160000
932	0.000000	932	3519.040000
933	0.000000	933	283.800000
934	0.000000	934	89.440000
935	0.000000	935	2044.120000
936	0.000000	936	1356.880000
937	0.000000	937	109.420000
938	0.000000	938	34.480000
939	0.000000	939	788.120000
940	0.000000	940	523.080000
941	0.000000	941	55.480000
942	-0.000000	942	0.000000
943	0.000000	943	303.850000

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Coordenada x	Valor x	Coordenada z	Valor z
944	0.000000	944	201.670000
945	0.000000	945	32164.000000
946	0.000000	946	1651.430580
947	0.000000	947	1115.369420
948	0.000000	948	18414.000000
949	0.000000	949	402.400000
950	0.000000	950	914.480000
951	0.000000	951	152.260000
952	0.000000	952	7099.400000
953	0.000000	953	155.200000
954	0.000000	954	352.580000
955	0.000000	955	58.700000
956	0.000000	956	2737.200000
957	0.000000	957	59.800000
958	0.000000	958	135.930000
959	0.000000	959	22.630000
960	0.000000	960	1055.280000
961	0.000000	961	23.060000
962	0.000000	962	39.120000
963	0.000000	963	22.020000
964	0.000000	964	406.850000
965	0.000000	965	8.890000
966	0.000000	966	12401.000000
967	0.000000	967	1256.540580
968	0.000000	968	720.479420
969	0.000000	969	18011.600000
970	-0.000000	970	0.000000
971	0.000000	971	914.480000
972	0.000000	972	152.260000
973	0.000000	973	7099.400000
974	0.000000	974	155.200000
975	0.000000	975	352.580000
976	0.000000	976	58.700000
977	0.000000	977	2737.200000
978	0.000000	978	59.800000
979	0.000000	979	135.930000
980	0.000000	980	22.630000
981	0.000000	981	1055.280000
982	0.000000	982	23.060000
983	0.000000	983	39.120000
984	0.000000	984	22.020000
985	0.000000	985	406.850000
986	0.000000	986	8.890000
987	-0.000000	987	0.000000
988	0.000000	988	1256.588390
989	0.000000	989	720.527230
990	0.000000	990	18011.647810
991	0.000000	991	0.047810
992	0.000000	992	762.267810

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Coordenada x	Valor x	Coordenada z	Valor z
993	0.000000	993	0.047810
994	0.000000	994	6944.247810
995	0.000000	995	0.047810
996	0.000000	996	352.627810
997	0.000000	997	58.747810
998	0.000000	998	2737.247810
999	0.000000	999	59.847810
1000	0.000000	1000	135.977810
1001	0.000000	1001	22.677810
1002	0.000000	1002	1055.327810
1003	0.000000	1003	23.107810
1004	0.000000	1004	39.167810
1005	0.000000	1005	22.067810
1006	0.000000	1006	406.897810
1007	0.000000	1007	8.937810
1008	1.000000	1008	0.000000
1009	0.000000	1009	1256.540580
1010	0.000000	1010	720.479420
1011	0.000000	1011	18011.600000
1012	0.000000	1012	0.000000
1013	0.000000	1013	762.220000
1014	-0.000000	1014	0.000000
1015	0.000000	1015	6944.200000
1016	-0.000000	1016	0.000000
1017	0.000000	1017	293.880000
1018	-0.000000	1018	0.000000
1019	0.000000	1019	2677.400000
1020	-0.000000	1020	0.000000
1021	0.000000	1021	113.300000
1022	-0.000000	1022	0.000000
1023	0.000000	1023	1032.220000
1024	-0.000000	1024	0.000000
1025	0.000000	1025	30.390000
1026	0.000000	1026	13.290000
1027	0.000000	1027	397.960000
1028	-0.000000	1028	0.000000
1029	0.000000	1029	39988.000000
1030	0.000000	1030	1851.995880
1031	0.000000	1031	1586.604120
1032	0.000000	1032	11951.185880
1033	0.000000	1033	11440.814120
1034	0.000000	1034	668.239599
1035	0.000000	1035	657.520401
1036	0.000000	1036	4302.339599
1037	0.000000	1037	4716.460401
1038	0.000000	1038	257.640689
1039	0.000000	1039	253.499311
1040	0.000000	1040	1658.870689
1041	0.000000	1041	1818.329311

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Coordenada x	Valor x	Coordenada z	Valor z
1042	0.000000	1042	99.350689
1043	0.000000	1043	97.709311
1044	0.000000	1044	639.550689
1045	0.000000	1045	701.049311
1046	0.000000	1046	38.320689
1047	0.000000	1047	37.659311
1048	0.000000	1048	246.600689
1049	0.000000	1049	270.259311
1050	0.000000	1050	15417.000000
1051	0.000000	1051	1360.895880
1052	0.000000	1052	1095.504120
1053	0.000000	1053	11451.185880
1054	0.000000	1054	10940.814120
1055	0.000000	1055	668.239599
1056	0.000000	1056	657.520401
1057	0.000000	1057	4302.339599
1058	0.000000	1058	4716.460401
1059	0.000000	1059	257.640689
1060	0.000000	1060	253.499311
1061	0.000000	1061	1658.870689
1062	0.000000	1062	1818.329311
1063	0.000000	1063	99.350689
1064	0.000000	1064	97.709311
1065	0.000000	1065	639.550689
1066	0.000000	1066	701.049311
1067	0.000000	1067	38.320689
1068	0.000000	1068	37.659311
1069	0.000000	1069	246.600689
1070	0.000000	1070	270.259311
1071	-0.000000	1071	0.000000
1072	0.000000	1072	1360.955319
1073	0.000000	1073	1095.563559
1074	0.000000	1074	11451.245319
1075	0.000000	1075	10940.873559
1076	0.000000	1076	478.939038
1077	0.000000	1077	468.219840
1078	0.000000	1078	4109.699038
1079	0.000000	1079	4523.819840
1080	0.000000	1080	257.700128
1081	0.000000	1081	253.558750
1082	0.000000	1082	1658.930128
1083	0.000000	1083	1818.388750
1084	0.000000	1084	99.410128
1085	0.000000	1085	97.768750
1086	0.000000	1086	639.610128
1087	0.000000	1087	701.108750
1088	0.000000	1088	38.380128
1089	0.000000	1089	37.718750
1090	0.000000	1090	246.660128

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Coordenada x	Valor x	Coordenada z	Valor z
1091	0.000000	1091	270.318750
1092	1.000000	1092	0.000000
1093	0.000000	1093	1360.895880
1094	0.000000	1094	1095.504120
1095	0.000000	1095	11451.185880
1096	0.000000	1096	10940.814120
1097	0.000000	1097	478.879599
1098	0.000000	1098	468.160401
1099	0.000000	1099	4109.639599
1100	0.000000	1100	4523.760401
1101	0.000000	1101	184.630689
1102	0.000000	1102	180.489311
1103	0.000000	1103	1584.570689
1104	0.000000	1104	1744.029311
1105	0.000000	1105	71.210689
1106	0.000000	1106	69.569311
1107	0.000000	1107	610.900689
1108	0.000000	1108	672.399311
1109	0.000000	1109	27.470689
1110	0.000000	1110	26.809311
1111	0.000000	1111	235.550689
1112	0.000000	1112	259.209311
1113	0.000000	1113	59764.000000
1114	0.000000	1114	2456.869580
1115	0.000000	1115	481.330420
1116	0.000000	1116	15759.659580
1117	0.000000	1117	3842.740420
1118	0.000000	1118	901.419340
1119	0.000000	1119	231.380660
1120	0.000000	1120	5770.599340
1121	0.000000	1121	1787.000660
1122	0.000000	1122	347.540830
1123	0.000000	1123	89.199170
1124	0.000000	1124	2224.920830
1125	0.000000	1125	688.879170
1126	0.000000	1126	134.080830
1127	0.000000	1127	34.299170
1128	0.000000	1128	857.850830
1129	0.000000	1129	265.549170
1130	0.000000	1130	51.770830
1131	0.000000	1131	13.149170
1132	0.000000	1132	330.830830
1133	0.000000	1133	102.289170
1134	0.000000	1134	23042.000000
1135	0.000000	1135	3044.269580
1136	0.000000	1136	1068.730420
1137	0.000000	1137	19943.459580
1138	0.000000	1138	8026.540420
1139	0.000000	1139	901.419340

Continua na próxima página



Coordenada x	Valor x	Coordenada z	Valor z
1140	0.000000	1140	231.380660
1141	0.000000	1141	5770.599340
1142	0.000000	1142	1787.000660
1143	0.000000	1143	347.540830
1144	0.000000	1144	89.199170
1145	0.000000	1145	2224.920830
1146	0.000000	1146	688.879170
1147	0.000000	1147	134.080830
1148	0.000000	1148	34.299170
1149	0.000000	1149	857.850830
1150	0.000000	1150	265.549170
1151	0.000000	1151	51.770830
1152	0.000000	1152	13.149170
1153	0.000000	1153	330.830830
1154	0.000000	1154	102.289170
1155	-0.000000	1155	0.000000
1156	0.000000	1156	3044.358415
1157	0.000000	1157	1068.819255
1158	0.000000	1158	19943.548415
1159	0.000000	1159	8026.629255
1160	0.000000	1160	1127.978175
1161	0.000000	1161	457.939495
1162	0.000000	1162	7383.688175
1163	0.000000	1163	3400.089495
1164	0.000000	1164	347.629665
1165	0.000000	1165	89.288005
1166	0.000000	1166	2225.009665
1167	0.000000	1167	688.968005
1168	0.000000	1168	134.169665
1169	0.000000	1169	34.388005
1170	0.000000	1170	857.939665
1171	0.000000	1171	265.638005
1172	0.000000	1172	51.859665
1173	0.000000	1173	13.238005
1174	0.000000	1174	330.919665
1175	0.000000	1175	102.378005
1176	1.000000	1176	0.000000
1177	0.000000	1177	3044.269580
1178	0.000000	1178	1068.730420
1179	0.000000	1179	19943.459580
1180	0.000000	1180	8026.540420
1181	0.000000	1181	1127.889340
1182	0.000000	1182	457.850660
1183	0.000000	1183	7383.599340
1184	0.000000	1184	3400.000660
1185	0.000000	1185	434.850830
1186	0.000000	1186	176.509170
1187	0.000000	1187	2846.820830
1188	0.000000	1188	1310.779170

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Coordenada x	Valor x	Coordenada z	Valor z
1189	0.000000	1189	167.740830
1190	0.000000	1190	67.959170
1191	0.000000	1191	1097.610830
1192	0.000000	1192	505.309170
1193	0.000000	1193	64.750830
1194	0.000000	1194	26.129170
1195	0.000000	1195	423.270830
1196	0.000000	1196	194.729170
1197	0.002104	1197	0.000000
1198	169.460000	1198	0.000000
1199	0.000000	1199	2563.612920
1200	40.950000	1200	0.000000
1201	0.000000	1201	17108.012920
1202	0.000000	1202	0.126861
1203	0.000000	1203	988.506059
1204	0.000000	1204	0.126861
1205	0.000000	1205	6596.086059
1206	0.000000	1206	0.175771
1207	0.000000	1207	381.237149
1208	0.000000	1208	0.175771
1209	0.000000	1209	2543.237149
1210	0.000000	1210	0.175771
1211	0.000000	1211	147.137149
1212	0.000000	1212	0.175771
1213	0.000000	1213	980.657149
1214	0.000000	1214	0.175771
1215	0.000000	1215	56.877149
1216	0.000000	1216	0.175771
1217	0.000000	1217	378.237149
1218	0.003204	1218	0.000000
1219	0.000000	1219	214.673139
1220	0.000000	1220	2778.286059
1221	0.000000	1221	1445.373139
1222	0.000000	1222	18553.386059
1223	279.460000	1223	0.000000
1224	0.000000	1224	988.379198
1225	40.950000	1225	0.000000
1226	0.000000	1226	6595.959198
1227	0.000000	1227	0.048910
1228	0.000000	1228	381.110288
1229	0.000000	1229	0.048910
1230	0.000000	1230	2543.110288
1231	0.000000	1231	0.048910
1232	0.000000	1232	147.010288
1233	0.000000	1233	0.048910
1234	0.000000	1234	980.530288
1235	0.000000	1235	0.048910
1236	0.000000	1236	56.750288
1237	0.000000	1237	0.048910

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Coordenada x	Valor x	Coordenada z	Valor z
1238	0.000000	1238	378.110288
1239	0.017312	1239	0.000000
1240	0.000000	1240	214.624229
1241	0.000000	1241	2778.237149
1242	0.000000	1242	1445.324229
1243	0.000000	1243	18553.337149
1244	0.000000	1244	82.771090
1245	0.000000	1245	1071.150288
1246	0.000000	1246	557.251090
1247	0.000000	1247	7153.210288
1248	389.460000	1248	0.000000
1249	0.000000	1249	381.061378
1250	40.950000	1250	0.000000
1251	0.000000	1251	2543.061378
1252	559.460000	1252	0.000000
1253	0.000000	1253	146.961378
1254	40.950000	1254	0.000000
1255	0.000000	1255	980.481378
1256	659.460000	1256	0.000000
1257	0.000000	1257	56.701378
1258	40.950000	1258	0.000000
1259	0.000000	1259	378.061378
1260	0.977379	1260	0.000000
1261	0.000000	1261	214.593540
1262	0.000000	1262	2778.206460
1263	0.000000	1263	1445.293540
1264	0.000000	1264	18553.306460
1265	0.000000	1265	82.740401
1266	0.000000	1266	1071.119599
1267	0.000000	1267	557.220401
1268	0.000000	1268	7153.179599
1269	0.000000	1269	31.899311
1270	0.000000	1270	412.960689
1271	0.000000	1271	214.769311
1272	0.000000	1272	2757.830689
1273	0.000000	1273	12.279311
1274	0.000000	1274	159.240689
1275	0.000000	1275	82.809311
1276	0.000000	1276	1063.290689
1277	0.000000	1277	4.709311
1278	0.000000	1278	61.410689
1279	0.000000	1279	31.899311
1280	0.000000	1280	409.960689
1281	0.002078	1281	0.000000
1282	0.000000	1282	2457.399680
1283	168.230000	1283	0.000000
1284	0.000000	1284	16395.799680
1285	39.550000	1285	0.000000
1286	0.000000	1286	947.732550

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Coordenada x	Valor x	Coordenada z	Valor z
1287	0.000000	1287	0.307130
1288	0.000000	1288	6321.692550
1289	0.000000	1289	0.307130
1290	0.000000	1290	365.694138
1291	0.000000	1291	0.425542
1292	0.000000	1292	2437.574138
1293	0.000000	1293	0.425542
1294	0.000000	1294	141.354138
1295	0.000000	1295	0.425542
1296	0.000000	1296	940.134138
1297	0.000000	1297	0.425542
1298	0.000000	1298	54.854138
1299	0.000000	1299	0.425542
1300	0.000000	1300	362.814138
1301	0.000000	1301	0.425542
1302	0.003178	1302	0.000000
1303	0.000000	1303	2948.192550
1304	0.000000	1304	490.792870
1305	0.000000	1305	19894.092550
1306	0.000000	1306	3498.292870
1307	0.000000	1307	947.425420
1308	278.230000	1308	0.000000
1309	0.000000	1309	6321.385420
1310	39.550000	1310	0.000000
1311	0.000000	1311	365.387008
1312	0.000000	1312	0.118412
1313	0.000000	1313	2437.267008
1314	0.000000	1314	0.118412
1315	0.000000	1315	141.047008
1316	0.000000	1316	0.118412
1317	0.000000	1317	939.827008
1318	0.000000	1318	0.118412
1319	0.000000	1319	54.547008
1320	0.000000	1320	0.118412
1321	0.000000	1321	362.507008
1322	0.000000	1322	0.118412
1323	0.017233	1323	0.000000
1324	0.000000	1324	2948.074138
1325	0.000000	1325	490.674458
1326	0.000000	1326	19893.974138
1327	0.000000	1327	3498.174458
1328	0.000000	1328	1136.667008
1329	0.000000	1329	189.241588
1330	0.000000	1330	7670.167008
1331	0.000000	1331	1348.781588
1332	0.000000	1332	365.268596
1333	388.230000	1333	0.000000
1334	0.000000	1334	2437.148596
1335	39.550000	1335	0.000000

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Coordenada x	Valor x	Coordenada z	Valor z
1336	0.000000	1336	140.928596
1337	558.230000	1337	0.000000
1338	0.000000	1338	939.708596
1339	39.550000	1339	0.000000
1340	0.000000	1340	54.428596
1341	658.230000	1341	0.000000
1342	0.000000	1342	362.388596
1343	39.550000	1343	0.000000
1344	0.977511	1344	0.000000
1345	0.000000	1345	2947.999840
1346	0.000000	1346	490.600160
1347	0.000000	1347	19893.899840
1348	0.000000	1348	3498.100160
1349	0.000000	1349	1136.592710
1350	0.000000	1350	189.167290
1351	0.000000	1351	7670.092710
1352	0.000000	1352	1348.707290
1353	0.000000	1353	438.204298
1354	0.000000	1354	72.935702
1355	0.000000	1355	2957.174298
1356	0.000000	1356	520.025702
1357	0.000000	1357	168.994298
1358	0.000000	1358	28.065702
1359	0.000000	1359	1140.154298
1360	0.000000	1360	200.445702
1361	0.000000	1361	65.204298
1362	0.000000	1362	10.775702
1363	0.000000	1363	439.624298
1364	0.000000	1364	77.235702
1365	0.002078	1365	0.000000
1366	0.000000	1366	854.727720
1367	168.230000	1367	0.000000
1368	0.000000	1368	5702.947720
1369	39.550000	1369	0.000000
1370	0.000000	1370	329.640891
1371	0.000000	1371	0.106829
1372	0.000000	1372	2198.840891
1373	0.000000	1373	0.106829
1374	0.000000	1374	127.199703
1375	0.000000	1375	0.148017
1376	0.000000	1376	847.839703
1377	0.000000	1377	0.148017
1378	0.000000	1378	49.159703
1379	0.000000	1379	0.148017
1380	0.000000	1380	326.999703
1381	0.000000	1381	0.148017
1382	0.000000	1382	19.079703
1383	0.000000	1383	0.148017
1384	0.000000	1384	126.199703

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Coordenada x	Valor x	Coordenada z	Valor z
1385	0.000000	1385	0.148017
1386	0.003178	1386	0.000000
1387	0.000000	1387	1025.380891
1388	0.000000	1388	170.653171
1389	0.000000	1389	6919.840891
1390	0.000000	1390	1216.893171
1391	0.000000	1391	329.534062
1392	278.230000	1392	0.000000
1393	0.000000	1393	2198.734062
1394	39.550000	1394	0.000000
1395	0.000000	1395	127.092874
1396	0.000000	1396	0.041188
1397	0.000000	1397	847.732874
1398	0.000000	1398	0.041188
1399	0.000000	1399	49.052874
1400	0.000000	1400	0.041188
1401	0.000000	1401	326.892874
1402	0.000000	1402	0.041188
1403	0.000000	1403	18.972874
1404	0.000000	1404	0.041188
1405	0.000000	1405	126.092874
1406	0.000000	1406	0.041188
1407	0.017233	1407	0.000000
1408	0.000000	1408	1025.339703
1409	0.000000	1409	170.611983
1410	0.000000	1410	6919.799703
1411	0.000000	1411	1216.851983
1412	0.000000	1412	395.322874
1413	0.000000	1413	65.788812
1414	0.000000	1414	2667.892874
1415	0.000000	1415	469.158812
1416	0.000000	1416	127.051686
1417	388.230000	1417	0.000000
1418	0.000000	1418	847.691686
1419	39.550000	1419	0.000000
1420	0.000000	1420	49.011686
1421	558.230000	1421	0.000000
1422	0.000000	1422	326.851686
1423	39.550000	1423	0.000000
1424	0.000000	1424	18.931686
1425	658.230000	1425	0.000000
1426	0.000000	1426	126.051686
1427	39.550000	1427	0.000000
1428	0.977511	1428	0.000000
1429	0.000000	1429	1025.313860
1430	0.000000	1430	170.586140
1431	0.000000	1431	6919.773860
1432	0.000000	1432	1216.826140
1433	0.000000	1433	395.297031

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Coordenada x	Valor x	Coordenada z	Valor z
1434	0.000000	1434	65.762969
1435	0.000000	1435	2667.867031
1436	0.000000	1436	469.132969
1437	0.000000	1437	152.405843
1438	0.000000	1438	25.354157
1439	0.000000	1439	1028.565843
1440	0.000000	1440	180.874157
1441	0.000000	1441	58.775843
1442	0.000000	1442	9.764157
1443	0.000000	1443	396.575843
1444	0.000000	1444	69.724157
1445	0.000000	1445	22.675843
1446	0.000000	1446	3.744157
1447	0.000000	1447	152.915843
1448	0.000000	1448	26.864157
1449	0.001531	1449	0.000000
1450	0.000000	1450	1388.945040
1451	119.120000	1451	0.000000
1452	0.000000	1452	9267.165040
1453	33.950000	1453	0.000000
1454	0.000000	1454	535.671440
1455	0.000000	1455	0.173600
1456	0.000000	1456	3572.991440
1457	0.000000	1457	0.173600
1458	0.000000	1458	206.704515
1459	0.000000	1459	0.240525
1460	0.000000	1460	1377.744515
1461	0.000000	1461	0.240525
1462	0.000000	1462	79.884515
1463	0.000000	1463	0.240525
1464	0.000000	1464	531.384515
1465	0.000000	1465	0.240525
1466	0.000000	1466	31.004515
1467	0.000000	1467	0.240525
1468	0.000000	1468	205.064515
1469	0.000000	1469	0.240525
1470	0.002631	1470	0.000000
1471	0.000000	1471	1666.321440
1472	0.000000	1472	277.376400
1473	0.000000	1473	11244.591440
1474	0.000000	1474	1977.426400
1475	0.000000	1475	535.497840
1476	229.120000	1476	0.000000
1477	0.000000	1477	3572.817840
1478	33.950000	1478	0.000000
1479	0.000000	1479	206.530915
1480	0.000000	1480	0.066925
1481	0.000000	1481	1377.570915
1482	0.000000	1482	0.066925

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Coordenada x	Valor x	Coordenada z	Valor z
1483	0.000000	1483	79.710915
1484	0.000000	1484	0.066925
1485	0.000000	1485	531.210915
1486	0.000000	1486	0.066925
1487	0.000000	1487	30.830915
1488	0.000000	1488	0.066925
1489	0.000000	1489	204.890915
1490	0.000000	1490	0.066925
1491	0.015592	1491	0.000000
1492	0.000000	1492	1666.254515
1493	0.000000	1493	277.309475
1494	0.000000	1494	11244.524515
1495	0.000000	1495	1977.359475
1496	0.000000	1496	642.440915
1497	0.000000	1497	106.943075
1498	0.000000	1498	4335.250915
1499	0.000000	1499	762.433075
1500	0.000000	1500	206.463990
1501	339.120000	1501	0.000000
1502	0.000000	1502	1377.503990
1503	33.950000	1503	0.000000
1504	0.000000	1504	79.643990
1505	509.120000	1505	0.000000
1506	0.000000	1506	531.143990
1507	33.950000	1507	0.000000
1508	0.000000	1508	30.763990
1509	609.120000	1509	0.000000
1510	0.000000	1510	204.823990
1511	33.950000	1511	0.000000
1512	0.980247	1512	0.000000
1513	0.000000	1513	1666.212520
1514	0.000000	1514	277.267480
1515	0.000000	1515	11244.482520
1516	0.000000	1516	1977.317480
1517	0.000000	1517	642.398920
1518	0.000000	1518	106.901080
1519	0.000000	1519	4335.208920
1520	0.000000	1520	762.391080
1521	0.000000	1521	247.671995
1522	0.000000	1522	41.208005
1523	0.000000	1523	1671.431995
1524	0.000000	1524	293.928005
1525	0.000000	1525	95.511995
1526	0.000000	1526	15.868005
1527	0.000000	1527	644.431995
1528	0.000000	1528	113.288005
1529	0.000000	1529	36.851995
1530	0.000000	1530	6.088005
1531	0.000000	1531	248.481995

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Coordenada x	Valor x	Coordenada z	Valor z
1532	0.000000	1532	43.658005
1533	0.001327	1533	0.000000
1534	0.000000	1534	2405.177960
1535	110.000000	1535	0.000000
1536	0.000000	1536	16039.377960
1537	22.750000	1537	0.000000
1538	0.000000	1538	927.597500
1539	0.000000	1539	0.300460
1540	0.000000	1540	6184.077500
1541	0.000000	1541	0.300460
1542	0.000000	1542	357.941663
1543	0.000000	1543	0.416297
1544	0.000000	1544	2384.561663
1545	0.000000	1545	0.416297
1546	0.000000	1546	138.341663
1547	0.000000	1547	0.416297
1548	0.000000	1548	919.701663
1549	0.000000	1549	0.416297
1550	0.000000	1550	53.681663
1551	0.000000	1551	0.416297
1552	0.000000	1552	354.921663
1553	0.000000	1553	0.416297
1554	0.002427	1554	0.000000
1555	0.000000	1555	2885.477500
1556	0.000000	1556	480.299540
1557	0.000000	1557	19461.877500
1558	0.000000	1558	3422.499540
1559	0.000000	1559	927.297040
1560	220.000000	1560	0.000000
1561	0.000000	1561	6183.777040
1562	22.750000	1562	0.000000
1563	0.000000	1563	357.641203
1564	0.000000	1564	0.115837
1565	0.000000	1565	2384.261203
1566	0.000000	1566	0.115837
1567	0.000000	1567	138.041203
1568	0.000000	1568	0.115837
1569	0.000000	1569	919.401203
1570	0.000000	1570	0.115837
1571	0.000000	1571	53.381203
1572	0.000000	1572	0.115837
1573	0.000000	1573	354.621203
1574	0.000000	1574	0.115837
1575	0.014982	1575	0.000000
1576	0.000000	1576	2885.361663
1577	0.000000	1577	480.183703
1578	0.000000	1578	19461.761663
1579	0.000000	1579	3422.383703
1580	0.000000	1580	1112.471203

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Coordenada x	Valor x	Coordenada z	Valor z
1581	0.000000	1581	185.174163
1582	0.000000	1582	7503.461203
1583	0.000000	1583	1319.684163
1584	0.000000	1584	357.525366
1585	330.000000	1585	0.000000
1586	0.000000	1586	2384.145366
1587	22.750000	1587	0.000000
1588	0.000000	1588	137.925366
1589	500.000000	1589	0.000000
1590	0.000000	1590	919.285366
1591	22.750000	1591	0.000000
1592	0.000000	1592	53.265366
1593	600.000000	1593	0.000000
1594	0.000000	1594	354.505366
1595	22.750000	1595	0.000000
1596	0.981262	1596	0.000000
1597	0.000000	1597	2885.288980
1598	0.000000	1598	480.111020
1599	0.000000	1599	19461.688980
1600	0.000000	1600	3422.311020
1601	0.000000	1601	1112.398520
1602	0.000000	1602	185.101480
1603	0.000000	1603	7503.388520
1604	0.000000	1604	1319.611480
1605	0.000000	1605	428.882683
1606	0.000000	1606	71.357317
1607	0.000000	1607	2892.872683
1608	0.000000	1608	508.727317
1609	0.000000	1609	165.392683
1610	0.000000	1610	27.467317
1611	0.000000	1611	1115.382683
1612	0.000000	1612	196.097317
1613	0.000000	1613	63.812683
1614	0.000000	1614	10.547317
1615	0.000000	1615	430.072683
1616	0.000000	1616	75.567317
1617	0.000000	1617	39242.000000
1618	0.000000	1618	85.680000
1619	0.000000	1619	512.880000
1620	0.000000	1620	3981.300000
1621	0.000000	1621	86.900000
1622	0.000000	1622	33.040000
1623	0.000000	1623	197.740000
1624	0.000000	1624	1534.980000
1625	0.000000	1625	33.520000
1626	0.000000	1626	12.740000
1627	0.000000	1627	76.240000
1628	0.000000	1628	12.920000
1629	0.000000	1629	591.800000

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Coordenada x	Valor x	Coordenada z	Valor z
1630	0.000000	1630	29.390000
1631	0.000000	1631	4.910000
1632	0.000000	1632	4.980000
1633	0.000000	1633	228.160000
1634	0.000000	1634	11.330000
1635	0.000000	1635	1.890000
1636	0.000000	1636	1.920000
1637	0.000000	1637	87.960000
1638	0.000000	1638	15130.000000
1639	0.000000	1639	0.000000
1640	0.000000	1640	427.200000
1641	0.000000	1641	3894.400000
1642	-0.000000	1642	0.000000
1643	0.000000	1643	33.040000
1644	0.000000	1644	197.740000
1645	0.000000	1645	1534.980000
1646	0.000000	1646	33.520000
1647	0.000000	1647	12.740000
1648	0.000000	1648	76.240000
1649	0.000000	1649	12.920000
1650	0.000000	1650	591.800000
1651	0.000000	1651	29.390000
1652	0.000000	1652	4.910000
1653	0.000000	1653	4.980000
1654	0.000000	1654	228.160000
1655	0.000000	1655	11.330000
1656	0.000000	1656	1.890000
1657	0.000000	1657	1.920000
1658	0.000000	1658	87.960000
1659	-0.000000	1659	0.000000
1660	0.000000	1660	0.058331
1661	0.000000	1661	427.258331
1662	0.000000	1662	3894.458331
1663	0.000000	1663	0.058331
1664	0.000000	1664	0.058331
1665	0.000000	1665	164.758331
1666	0.000000	1666	1501.518331
1667	0.000000	1667	0.058331
1668	0.000000	1668	12.798331
1669	0.000000	1669	76.298331
1670	0.000000	1670	12.978331
1671	0.000000	1671	591.858331
1672	0.000000	1672	29.448331
1673	0.000000	1673	4.968331
1674	0.000000	1674	5.038331
1675	0.000000	1675	228.218331
1676	0.000000	1676	11.388331
1677	0.000000	1677	1.948331
1678	0.000000	1678	1.978331

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Coordenada x	Valor x	Coordenada z	Valor z
1679	0.000000	1679	88.018331
1680	1.000000	1680	0.000000
1681	-0.000000	1681	0.000000
1682	0.000000	1682	427.200000
1683	0.000000	1683	3894.400000
1684	0.000000	1684	-0.000000
1685	-0.000000	1685	0.000000
1686	0.000000	1686	164.700000
1687	0.000000	1687	1501.460000
1688	-0.000000	1688	0.000000
1689	-0.000000	1689	0.000000
1690	0.000000	1690	63.500000
1691	-0.000000	1691	0.000000
1692	0.000000	1692	578.880000
1693	0.000000	1693	24.480000
1694	-0.000000	1694	0.000000
1695	-0.000000	1695	0.000000
1696	0.000000	1696	223.180000
1697	0.000000	1697	9.440000
1698	-0.000000	1698	0.000000
1699	-0.000000	1699	0.000000
1700	0.000000	1700	86.040000
1701	-0.000000	1701	0.000000
1702	0.000000	1702	0.336840
1703	0.000000	1703	1548.916840
1704	0.000000	1704	1584.836840
1705	0.000000	1705	11524.636840
1706	0.000000	1706	0.336840
1707	0.000000	1707	597.376840
1708	0.000000	1708	611.276840
1709	0.000000	1709	4443.396840
1710	0.000000	1710	0.336840
1711	0.000000	1711	230.516840
1712	0.000000	1712	235.936840
1713	0.000000	1713	1713.296840
1714	0.000000	1714	0.336840
1715	0.000000	1715	89.076840
1716	0.000000	1716	0.336840
1717	0.000000	1717	751.596840
1718	0.000000	1718	0.336840
1719	0.000000	1719	34.556840
1720	0.000000	1720	0.336840
1721	0.000000	1721	289.976840
1722	0.000000	1722	12987.000000
1723	-0.000000	1723	0.000000
1724	0.000000	1724	1548.580000
1725	0.000000	1725	2595.400000
1726	0.000000	1726	12535.200000
1727	0.000000	1727	0.000000

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Coordenada x	Valor x	Coordenada z	Valor z
1728	0.000000	1728	597.040000
1729	0.000000	1729	610.940000
1730	0.000000	1730	4443.060000
1731	0.000000	1731	0.000000
1732	0.000000	1732	230.180000
1733	0.000000	1733	235.600000
1734	0.000000	1734	1712.960000
1735	0.000000	1735	0.000000
1736	0.000000	1736	88.740000
1737	-0.000000	1737	0.000000
1738	0.000000	1738	751.260000
1739	0.000000	1739	0.000000
1740	0.000000	1740	34.220000
1741	0.000000	1741	0.000000
1742	0.000000	1742	289.640000
1743	0.000000	1743	5006.900000
1744	0.000000	1744	0.000000
1745	0.000000	1745	1548.580000
1746	0.000000	1746	2595.400000
1747	0.000000	1747	12535.200000
1748	0.000000	1748	0.000000
1749	0.000000	1749	597.040000
1750	0.000000	1750	1000.740000
1751	0.000000	1751	4832.860000
1752	0.000000	1752	0.000000
1753	0.000000	1753	230.180000
1754	0.000000	1754	235.600000
1755	0.000000	1755	1712.960000
1756	0.000000	1756	0.000000
1757	0.000000	1757	88.740000
1758	-0.000000	1758	0.000000
1759	0.000000	1759	751.260000
1760	0.000000	1760	0.000000
1761	0.000000	1761	34.220000
1762	-0.000000	1762	0.000000
1763	0.000000	1763	289.640000
1764	1.000000	1764	0.000000
1765	0.000000	1765	0.000000
1766	0.000000	1766	1548.580000
1767	0.000000	1767	2595.400000
1768	0.000000	1768	12535.200000
1769	-0.000000	1769	0.000000
1770	0.000000	1770	597.040000
1771	0.000000	1771	1000.740000
1772	0.000000	1772	4832.860000
1773	-0.000000	1773	0.000000
1774	0.000000	1774	230.180000
1775	0.000000	1775	385.820000
1776	0.000000	1776	1863.180000

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Coordenada x	Valor x	Coordenada z	Valor z
1777	-0.000000	1777	0.000000
1778	0.000000	1778	88.740000
1779	0.000000	1779	57.930000
1780	0.000000	1780	809.190000
1781	-0.000000	1781	0.000000
1782	0.000000	1782	34.220000
1783	0.000000	1783	22.330000
1784	0.000000	1784	311.970000
1785	0.001327	1785	0.000000
1786	110.000000	1786	0.000000
1787	0.000000	1787	2564.243140
1788	22.750000	1788	0.000000
1789	0.000000	1789	17108.643140
1790	0.000000	1790	0.320480
1791	0.000000	1791	988.942660
1792	0.000000	1792	0.320480
1793	0.000000	1793	6596.522660
1794	0.000000	1794	0.444041
1795	0.000000	1795	381.599099
1796	0.000000	1796	0.444041
1797	0.000000	1797	2543.599099
1798	0.000000	1798	0.444041
1799	0.000000	1799	147.499099
1800	0.000000	1800	0.444041
1801	0.000000	1801	981.019099
1802	0.000000	1802	0.444041
1803	0.000000	1803	57.239099
1804	0.000000	1804	0.444041
1805	0.000000	1805	378.599099
1806	0.002427	1806	0.000000
1807	0.000000	1807	512.579520
1808	0.000000	1808	3076.822660
1809	0.000000	1809	3650.879520
1810	0.000000	1810	20759.522660
1811	220.000000	1811	0.000000
1812	0.000000	1812	988.622180
1813	22.750000	1813	0.000000
1814	0.000000	1814	6596.202180
1815	0.000000	1815	0.123561
1816	0.000000	1816	381.278619
1817	0.000000	1817	0.123561
1818	0.000000	1818	2543.278619
1819	0.000000	1819	0.123561
1820	0.000000	1820	147.178619
1821	0.000000	1821	0.123561
1822	0.000000	1822	980.698619
1823	0.000000	1823	0.123561
1824	0.000000	1824	56.918619
1825	0.000000	1825	0.123561

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Coordenada x	Valor x	Coordenada z	Valor z
1826	0.000000	1826	378.278619
1827	0.014982	1827	0.000000
1828	0.000000	1828	512.455959
1829	0.000000	1829	3076.699099
1830	0.000000	1830	3650.755959
1831	0.000000	1831	20759.399099
1832	0.000000	1832	197.606439
1833	0.000000	1833	1186.228619
1834	0.000000	1834	1407.476439
1835	0.000000	1835	8003.678619
1836	330.000000	1836	0.000000
1837	0.000000	1837	381.155058
1838	22.750000	1838	0.000000
1839	0.000000	1839	2543.155058
1840	500.000000	1840	0.000000
1841	0.000000	1841	147.055058
1842	22.750000	1842	0.000000
1843	0.000000	1843	980.575058
1844	600.000000	1844	0.000000
1845	0.000000	1845	56.795058
1846	22.750000	1846	0.000000
1847	0.000000	1847	378.155058
1848	0.981262	1848	0.000000
1849	0.000000	1849	512.378430
1850	0.000000	1850	3076.621570
1851	0.000000	1851	3650.678430
1852	0.000000	1852	20759.321570
1853	0.000000	1853	197.528910
1854	0.000000	1854	1186.151090
1855	0.000000	1855	1407.398910
1856	0.000000	1856	8003.601090
1857	0.000000	1857	76.162471
1858	0.000000	1858	457.317529
1859	0.000000	1859	542.622471
1860	0.000000	1860	3085.777529
1861	0.000000	1861	29.312471
1862	0.000000	1862	176.367529
1863	0.000000	1863	209.152471
1864	0.000000	1864	1189.727529
1865	0.000000	1865	11.252471
1866	0.000000	1866	68.047529
1867	0.000000	1867	80.582471
1868	0.000000	1868	458.737529
1869	-0.000000	1869	0.000000
1870	0.000000	1870	1255.893340
1871	0.000000	1871	107.293340
1872	-0.000000	1872	0.000000
1873	0.000000	1873	14852.086680
1874	0.000000	1874	0.443340

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Coordenada x	Valor x	Coordenada z	Valor z
1875	0.000000	1875	525.663340
1876	0.000000	1876	0.443340
1877	0.000000	1877	5726.243340
1878	0.000000	1878	0.443340
1879	0.000000	1879	202.943340
1880	0.000000	1880	0.443340
1881	0.000000	1881	2208.043340
1882	0.000000	1882	0.443340
1883	0.000000	1883	78.523340
1884	0.000000	1884	0.443340
1885	0.000000	1885	851.543340
1886	0.000000	1886	0.443340
1887	0.000000	1887	30.543340
1888	0.000000	1888	0.443340
1889	0.000000	1889	328.583340
1890	0.000000	1890	17093.000000
1891	0.000000	1891	1255.450000
1892	0.000000	1892	106.850000
1893	0.000000	1893	1662.356660
1894	0.000000	1894	16514.443340
1895	0.000000	1895	0.000000
1896	0.000000	1896	525.220000
1897	-0.000000	1897	0.000000
1898	0.000000	1898	5725.800000
1899	0.000000	1899	0.000000
1900	0.000000	1900	202.500000
1901	0.000000	1901	-0.000000
1902	0.000000	1902	2207.600000
1903	0.000000	1903	0.000000
1904	0.000000	1904	78.080000
1905	0.000000	1905	-0.000000
1906	0.000000	1906	851.100000
1907	0.000000	1907	0.000000
1908	0.000000	1908	30.100000
1909	-0.000000	1909	0.000000
1910	0.000000	1910	328.140000
1911	0.000000	1911	6590.000000
1912	0.000000	1912	1255.450000
1913	0.000000	1913	106.850000
1914	0.000000	1914	1662.356660
1915	0.000000	1915	16514.443340
1916	0.000000	1916	0.000000
1917	0.000000	1917	525.220000
1918	0.000000	1918	641.100000
1919	0.000000	1919	6366.900000
1920	0.000000	1920	0.000000
1921	0.000000	1921	202.500000
1922	-0.000000	1922	0.000000
1923	0.000000	1923	2207.600000

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Coordenada x	Valor x	Coordenada z	Valor z
1924	0.000000	1924	0.000000
1925	0.000000	1925	78.080000
1926	-0.000000	1926	0.000000
1927	0.000000	1927	851.100000
1928	0.000000	1928	0.000000
1929	0.000000	1929	30.100000
1930	-0.000000	1930	0.000000
1931	0.000000	1931	328.140000
1932	1.000000	1932	0.000000
1933	0.000000	1933	1255.450000
1934	0.000000	1934	106.850000
1935	0.000000	1935	1662.356660
1936	0.000000	1936	16514.443340
1937	-0.000000	1937	0.000000
1938	0.000000	1938	525.220000
1939	0.000000	1939	641.100000
1940	0.000000	1940	6366.900000
1941	-0.000000	1941	0.000000
1942	0.000000	1942	202.500000
1943	0.000000	1943	247.100000
1944	0.000000	1944	2454.700000
1945	-0.000000	1945	0.000000
1946	0.000000	1946	78.080000
1947	0.000000	1947	95.290000
1948	0.000000	1948	946.390000
1949	-0.000000	1949	0.000000
1950	0.000000	1950	30.100000
1951	0.000000	1951	36.740000
1952	0.000000	1952	364.880000
1953	-0.000000	1953	0.000000
1954	0.000000	1954	2216.600004
1955	0.000000	1955	0.000004
1956	0.000000	1956	5722.956664
1957	0.000000	1957	18449.043344
1958	0.000000	1958	370.580004
1959	0.000000	1959	484.040004
1960	0.000000	1960	2206.790004
1961	0.000000	1961	7112.810004
1962	0.000000	1962	142.870004
1963	0.000000	1963	186.630004
1964	0.000000	1964	850.740004
1965	0.000000	1965	2742.260004
1966	0.000000	1966	55.090004
1967	0.000000	1967	71.950004
1968	0.000000	1968	237.200004
1969	0.000000	1969	1148.080004
1970	0.000000	1970	21.240004
1971	0.000000	1971	27.740004
1972	0.000000	1972	91.450004

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Coordenada x	Valor x	Coordenada z	Valor z
1973	0.000000	1973	442.630004
1974	0.000000	1974	0.160000
1975	0.000000	1975	2216.600000
1976	0.000000	1976	-0.000000
1977	0.000000	1977	8092.956660
1978	0.000000	1978	20819.043340
1979	0.000000	1979	370.580000
1980	0.000000	1980	484.040000
1981	0.000000	1981	2206.790000
1982	0.000000	1982	7112.810000
1983	0.000000	1983	142.870000
1984	0.000000	1984	186.630000
1985	0.000000	1985	850.740000
1986	0.000000	1986	2742.260000
1987	0.000000	1987	55.090000
1988	0.000000	1988	71.950000
1989	0.000000	1989	237.200000
1990	0.000000	1990	1148.080000
1991	0.000000	1991	21.240000
1992	0.000000	1992	27.740000
1993	0.000000	1993	91.450000
1994	0.000000	1994	442.630000
1995	0.000000	1995	0.060000
1996	0.000000	1996	2216.600000
1997	0.000000	1997	-0.000000
1998	0.000000	1998	8092.956660
1999	0.000000	1999	20819.043340
2000	0.000000	2000	370.580000
2001	0.000000	2001	484.040000
2002	0.000000	2002	3120.290000
2003	0.000000	2003	8026.310000
2004	0.000000	2004	142.870000
2005	0.000000	2005	186.630000
2006	0.000000	2006	850.740000
2007	0.000000	2007	2742.260000
2008	0.000000	2008	55.090000
2009	0.000000	2009	71.950000
2010	0.000000	2010	237.200000
2011	0.000000	2011	1148.080000
2012	0.000000	2012	21.240000
2013	0.000000	2013	27.740000
2014	0.000000	2014	91.450000
2015	0.000000	2015	442.630000
2016	0.000000	2016	0.000000
2017	0.000000	2017	2216.600000
2018	-0.000000	2018	0.000000
2019	0.000000	2019	8092.956660
2020	0.000000	2020	20819.043340
2021	0.000000	2021	370.580000

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Coordenada x	Valor x	Coordenada z	Valor z
2022	0.000000	2022	484.040000
2023	0.000000	2023	3120.290000
2024	0.000000	2024	8026.310000
2025	0.000000	2025	142.870000
2026	0.000000	2026	186.630000
2027	0.000000	2027	1202.940000
2028	0.000000	2028	3094.460000
2029	0.000000	2029	55.090000
2030	0.000000	2030	71.950000
2031	0.000000	2031	372.990000
2032	0.000000	2032	1283.870000
2033	0.000000	2033	21.240000
2034	0.000000	2034	27.740000
2035	0.000000	2035	143.810000
2036	0.000000	2036	494.990000

### 3 Variáveis Duais (Multiplicadores de Lagrange)

Tabela 2: Variáveis duais do problema sierra

Coordenada y	Valor y
1	-0.000000
2	-0.000000
3	-0.000000
4	-0.000000
5	-0.000000
6	-0.000000
7	-0.000000
8	-0.000000
9	-0.000000
10	-0.000000
11	-0.000000
12	-0.000000
13	-0.000000
14	-0.000000
15	-0.000000
16	-0.000000
17	-0.000000
18	-0.000000
19	-0.000000
20	-0.000000
21	-0.000000
22	-0.000000
23	-0.000000
24	-0.000000
25	-0.000000

Continua na próxima página

Coordenada y	Valor y
26	-0.000000
27	-0.000000
28	-0.000000
29	-0.000000
30	-0.000000
31	-0.000000
32	-0.000000
33	-0.000000
34	-0.000000
35	-0.000000
36	-0.000000
37	-0.000000
38	-0.000000
39	-0.000000
40	-0.000000
41	-0.000000
42	-0.000000
43	-0.000000
44	-0.000000
45	-0.000000
46	-0.000000
47	-0.000000
48	-0.000000
49	-0.000000
50	-0.000000
51	-0.000000
52	-0.000000
53	-0.000000
54	-0.000000
55	-0.000000
56	-0.000000
57	-0.000000
58	-0.000000
59	-0.000000
60	-0.000000
61	-0.000000
62	-0.000000
63	-0.000000
64	-0.000000
65	-0.000000
66	-0.000000
67	-0.000000
68	-0.000000
69	-0.000000
70	-0.000000
71	-0.000000
72	-0.000000
73	-0.000000
74	-0.000000
Continua na próxima página	

Coordenada y	Valor y
75	-0.000000
76	-0.000000
77	-0.000000
78	-0.000000
79	-0.000000
80	-0.000000
81	-0.000000
82	-0.000000
83	-0.000000
84	-0.000000
85	-0.000000
86	-0.000000
87	-0.000000
88	-0.000000
89	-0.000000
90	-0.000000
91	-0.000000
92	-0.000000
93	-0.000000
94	-0.000000
95	-0.000000
96	-0.000000
97	-0.000000
98	-0.000000
99	-0.000000
100	-0.000000
101	-0.000000
102	-0.000000
103	-0.000000
104	-0.000000
105	-0.000000
106	-0.000000
107	-0.000000
108	-0.000000
109	-0.000000
110	-0.000000
111	-0.000000
112	-0.000000
113	-0.000000
114	-0.000000
115	-0.000000
116	-0.000000
117	-0.000000
118	-0.000000
119	-0.000000
120	-0.000000
121	-0.000000
122	-0.000000
123	-0.000000
Continua na próxima página	

Coordenada y	Valor y
124	-0.000000
125	-0.000000
126	-0.000000
127	-0.000000
128	-0.000000
129	-0.000000
130	-0.000000
131	-0.000000
132	-0.000000
133	-0.000000
134	-0.000000
135	-0.000000
136	-0.000000
137	-0.000000
138	-0.000000
139	-0.000000
140	-0.000000
141	-0.000000
142	-0.000000
143	-0.000000
144	-0.000000
145	-0.000000
146	-0.000000
147	-0.000000
148	-0.000000
149	-0.000000
150	-0.000000
151	-0.000000
152	-0.000000
153	-0.000000
154	-0.000000
155	-0.000000
156	-0.000000
157	-0.000000
158	-0.000000
159	-0.000000
160	-0.000000
161	-0.000000
162	-0.000000
163	-0.000000
164	-0.000000
165	-0.000000
166	-0.000000
167	-0.000000
168	-0.000000
169	-0.000000
170	-0.000000
171	-0.000000
172	-0.000000

Continua na próxima página

Coordenada y	Valor y
173	-0.000000
174	-0.000000
175	-0.000000
176	-0.000000
177	-0.000000
178	-0.000000
179	-0.000000
180	-0.000000
181	-0.000000
182	-0.000000
183	-0.000000
184	-0.000000
185	-0.000000
186	-0.000000
187	-0.000000
188	-0.000000
189	-0.000000
190	-0.000000
191	-0.000000
192	-0.000000
193	-0.000000
194	-0.000000
195	-0.000000
196	-0.000000
197	-0.000000
198	-0.000000
199	-0.000000
200	-0.000000
201	-0.000000
202	-0.000000
203	-0.000000
204	-0.000000
205	-0.000000
206	-0.000000
207	-0.000000
208	-0.000000
209	-0.000000
210	-0.000000
211	-0.000000
212	-0.000000
213	-0.000000
214	-0.000000
215	-0.000000
216	-0.000000
217	-0.000000
218	-0.000000
219	-0.000000
220	-0.000000
221	-0.000000
Continua na próxima página	

Coordenada y	Valor y
222	-0.000000
223	-0.000000
224	-0.000000
225	-0.000000
226	-0.000000
227	-0.000000
228	-0.000000
229	-0.000000
230	-0.000000
231	-0.000000
232	-0.000000
233	-0.000000
234	-0.000000
235	-0.000000
236	-0.000000
237	-0.000000
238	-0.000000
239	-0.000000
240	-0.000000
241	-0.000000
242	-0.000000
243	-0.000000
244	-0.000000
245	-0.000000
246	-1181.100000
247	-455.320000
248	-175.560000
249	-67.690000
250	-26.090000
251	-0.000000
252	-0.000000
253	-0.000000
254	-0.000000
255	-0.000000
256	-0.000000
257	-0.000000
258	-0.000000
259	-0.000000
260	-0.000000
261	-0.000000
262	-0.000000
263	-0.000000
264	-0.000000
265	-0.000000
266	-0.000000
267	-0.000000
268	-0.000000
269	-0.000000
270	-0.000000
Continua na próxima página	



Coordenada y	Valor y
271	-0.000000
272	-0.000000
273	-0.000000
274	-0.000000
275	-0.000000
276	-0.000000
277	-0.000000
278	-0.000000
279	-0.000000
280	-0.000000
281	-0.000000
282	-0.000000
283	-0.000000
284	-0.000000
285	-0.000000
286	-0.000000
287	-0.000000
288	-0.000000
289	-0.000000
290	-0.000000
291	-0.000000
292	-0.000000
293	-0.000000
294	-0.000000
295	-0.000000
296	-0.000000
297	0.631230
298	-0.000000
299	-0.000000
300	-0.000000
301	-0.000000
302	-0.000000
303	0.505100
304	-0.000000
305	-0.000000
306	-0.000000
307	-0.000000
308	-0.000000
309	0.164220
310	-523.267010
311	-0.000000
312	-0.000000
313	-0.000000
314	-0.000000
315	0.063315
316	-523.367915
317	-0.000000
318	-0.000000
319	-0.000000

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Continúa na próxima página

Coordenada y	Valor y
320	-0.000000
321	-0.000000
322	-523.431230
323	-0.000000
324	-0.000000
325	-0.000000
326	-0.000000
327	-0.000000
328	0.399350
329	-0.000000
330	-0.000000
331	-0.000000
332	-0.000000
333	-0.000000
334	0.319550
335	-0.000000
336	-0.000000
337	-0.000000
338	-0.000000
339	-0.000000
340	0.103900
341	-331.285450
342	-0.000000
343	-0.000000
344	-0.000000
345	-0.000000
346	0.040057
347	-331.349293
348	-0.000000
349	-0.000000
350	-0.000000
351	-0.000000
352	-0.000000
353	-331.389350
354	-0.000000
355	-0.000000
356	-0.000000
357	-0.000000
358	-0.000000
359	-0.000000
360	-0.000000
361	-0.000000
362	-0.000000
363	-0.000000
364	-0.000000
365	0.157520
366	-0.000000
367	-0.000000
368	-0.000000

Continúa na próxima página

Coordenada y	Valor y
369	-0.000000
370	-0.000000
371	-0.000000
372	-0.000000
373	-0.000000
374	-0.000000
375	-0.000000
376	-0.000000
377	-0.000000
378	-0.000000
379	-0.000000
380	-0.000000
381	-0.000000
382	-0.000000
383	-0.000000
384	-0.000000
385	-0.000000
386	-0.000000
387	-0.000000
388	-0.000000
389	-0.000000
390	-0.000000
391	-0.000000
392	-0.000000
393	-0.000000
394	-0.000000
395	-0.000000
396	0.047810
397	-0.000000
398	-0.000000
399	-0.000000
400	-0.000000
401	-0.000000
402	-0.000000
403	-0.000000
404	-0.000000
405	-0.000000
406	-0.000000
407	-0.000000
408	-0.000000
409	-0.000000
410	-0.000000
411	-0.000000
412	-0.000000
413	-0.000000
414	-0.000000
415	-0.000000
416	-0.000000
417	-0.000000
Continua na próxima página	

Coordenada y	Valor y
418	-0.000000
419	-0.000000
420	-0.000000
421	0.059439
422	-0.000000
423	-0.000000
424	-0.000000
425	-0.000000
426	-0.000000
427	-0.000000
428	-0.000000
429	-0.000000
430	-0.000000
431	-0.000000
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433	-0.000000
434	-0.000000
435	-0.000000
436	-0.000000
437	-0.000000
438	-0.000000
439	-0.000000
440	-0.000000
441	-0.000000
442	-0.000000
443	-0.000000
444	-0.000000
445	-0.000000
446	0.088835
447	-0.000000
448	-0.000000
449	-0.000000
450	-0.000000
451	-0.000000
452	-0.000000
453	-0.000000
454	-0.000000
455	-0.000000
456	-0.000000
457	-0.000000
458	-0.000000
459	0.206460
460	-0.000000
461	-0.000000
462	-0.000000
463	-0.000000
464	-0.000000
465	0.079599
466	-0.000000
Continúa na próxima página	

Coordenada y	Valor y
467	-0.000000
468	-0.000000
469	-0.000000
470	-0.000000
471	0.030689
472	-0.000000
473	-0.000000
474	-0.000000
475	-0.000000
476	-0.000000
477	-0.000000
478	-0.000000
479	-0.000000
480	-0.000000
481	-0.000000
482	-0.000000
483	-0.000000
484	0.499840
485	-0.000000
486	-0.000000
487	-0.000000
488	-0.000000
489	-0.000000
490	0.192710
491	-0.000000
492	-0.000000
493	-0.000000
494	-0.000000
495	-0.000000
496	0.074298
497	-0.000000
498	-0.000000
499	-0.000000
500	-0.000000
501	-0.000000
502	-0.000000
503	-0.000000
504	-0.000000
505	-0.000000
506	-0.000000
507	-0.000000
508	-0.000000
509	0.173860
510	-0.000000
511	-0.000000
512	-0.000000
513	-0.000000
514	-0.000000
515	0.067031
Continua na próxima página	

Coordenada y	Valor y
516	-0.000000
517	-0.000000
518	-0.000000
519	-0.000000
520	-0.000000
521	0.025843
522	-0.000000
523	-0.000000
524	-0.000000
525	-0.000000
526	-0.000000
527	-0.000000
528	-0.000000
529	-0.000000
530	-0.000000
531	-0.000000
532	-0.000000
533	-0.000000
534	0.282520
535	-0.000000
536	-0.000000
537	-0.000000
538	-0.000000
539	-0.000000
540	0.108920
541	-0.000000
542	-0.000000
543	-0.000000
544	-0.000000
545	-0.000000
546	0.041995
547	-0.000000
548	-0.000000
549	-0.000000
550	-0.000000
551	-0.000000
552	-0.000000
553	-0.000000
554	-0.000000
555	-0.000000
556	-0.000000
557	-0.000000
558	-0.000000
559	0.488980
560	-0.000000
561	-0.000000
562	-0.000000
563	-0.000000
564	-0.000000
Continúa na próxima página	

Coordenada y	Valor y
565	0.188520
566	-0.000000
567	-0.000000
568	-0.000000
569	-0.000000
570	-0.000000
571	0.072683
572	-0.000000
573	-0.000000
574	-0.000000
575	-0.000000
576	-0.000000
577	-0.000000
578	-0.000000
579	-0.000000
580	-0.000000
581	-0.000000
582	-0.000000
583	-0.000000
584	-0.000000
585	-0.000000
586	-0.000000
587	-0.000000
588	-0.000000
589	-0.000000
590	-0.000000
591	-0.000000
592	-0.000000
593	-0.000000
594	-0.000000
595	-0.000000
596	0.058331
597	-0.000000
598	-0.000000
599	-0.000000
600	-0.000000
601	-0.000000
602	-0.000000
603	-0.000000
604	-0.000000
605	-0.000000
606	-0.000000
607	-0.000000
608	-0.000000
609	0.336840
610	-0.000000
611	-0.000000
612	-0.000000
613	-0.000000

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Continúa na próxima página

Coordenada y	Valor y
614	-0.000000
615	-0.000000
616	-0.000000
617	-0.000000
618	-0.000000
619	-0.000000
620	-0.000000
621	-0.000000
622	-0.000000
623	-0.000000
624	-0.000000
625	-0.000000
626	-0.000000
627	-0.000000
628	-0.000000
629	-0.000000
630	-0.000000
631	-0.000000
632	-0.000000
633	-0.000000
634	0.521570
635	-0.000000
636	-0.000000
637	-0.000000
638	-0.000000
639	-0.000000
640	0.201090
641	-0.000000
642	-0.000000
643	-0.000000
644	-0.000000
645	-0.000000
646	0.077529
647	-0.000000
648	-0.000000
649	-0.000000
650	-0.000000
651	-0.000000
652	-0.000000
653	-0.000000
654	-0.000000
655	-0.000000
656	-0.000000
657	-0.000000
658	-0.000000
659	0.443340
660	-0.000000
661	-0.000000
662	-0.000000

Continúa na próxima página



Coordenada y	Valor y
663	-0.000000
664	-0.000000
665	-0.000000
666	-0.000000
667	-0.000000
668	-0.000000
669	-0.000000
670	-0.000000
671	-0.000000
672	-0.000000
673	-0.000000
674	-0.000000
675	-0.000000
676	-0.000000
677	-0.000000
678	-0.000000
679	-0.000000
680	-0.000000
681	-0.000000
682	-0.000000
683	-0.000000
684	0.000004
685	-0.000000
686	-0.000000
687	-0.000000
688	-0.000000
689	-0.000000
690	-0.000000
691	-0.000000
692	-0.000000
693	-0.000000
694	-0.000000
695	-0.000000
696	-0.000000
697	-0.000000
698	-0.000000
699	-0.000000
700	-0.000000
701	-0.000000
702	-0.000000
703	-0.000000
704	-0.000000
705	-0.000000
706	-0.000000
707	-0.000000
708	-4207.030160
709	-133.820000
710	-63.500000
711	-24.480000

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Coordenada y	Valor y
712	-9.440000
713	-32434.362680
714	-12504.848260
715	-4821.192825
716	-1858.872825
717	-716.782825
718	-4207.030160
719	-133.820000
720	-63.500000
721	-24.480000
722	-9.440000
723	-32434.362680
724	-12504.848260
725	-4821.192825
726	-1858.872825
727	-716.782825
728	-4207.030160
729	-133.820000
730	-63.500000
731	-24.480000
732	-9.440000
733	-32434.362680
734	-12504.848260
735	-4821.192825
736	-1858.872825
737	-716.782825
738	-4207.030160
739	-133.820000
740	-63.500000
741	-24.480000
742	-9.440000
743	-32434.362680
744	-12504.848260
745	-4821.192825
746	-1858.872825
747	-716.782825
748	-4207.030160
749	-133.820000
750	-63.500000
751	-24.480000
752	-9.440000
753	-32434.362680
754	-12504.848260
755	-4821.192825
756	-1858.872825
757	-716.782825
758	-3859.940160
759	-0.000000
760	-11.910000

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Coordenada y	Valor y
761	-4.590000
762	-1.770000
763	-32434.362680
764	-12504.848260
765	-4821.192825
766	-1858.872825
767	-716.782825
768	-4207.030160
769	-133.820000
770	-63.500000
771	-24.480000
772	-9.440000
773	-35372.562680
774	-13637.648260
775	-5257.932825
776	-2027.252825
777	-781.702825
778	-2751.600160
779	427.310000
780	152.840000
781	58.930000
782	22.720000
783	-22721.862680
784	-8760.258260
785	-3377.492825
786	-1302.272825
787	-502.182825
788	-3098.690160
789	293.490000
790	101.250000
791	39.040000
792	15.050000
793	-25038.562680
794	-9653.428260
795	-3721.852825
796	-1435.032825
797	-553.372825
798	-3312.290160
799	211.140000
800	69.500000
801	26.800000
802	10.330000
803	-26464.162680
804	-10203.068260
805	-3933.762825
806	-1516.732825
807	-584.872825
808	240.430420
809	1252.330580

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Coordenada y	Valor y
810	471.344650
811	182.234650
812	70.764650
813	-2394.642100
814	-3262.727680
815	-1257.508175
816	-484.438175
817	-186.368175
818	-987.769580
819	1153.150000
820	432.680000
821	166.820000
822	64.320000
823	-10592.042100
824	-3778.208260
825	-1456.772825
826	-561.722825
827	-216.682825
828	-3686.080160
829	67.030000
830	13.940000
831	5.380000
832	2.070000
833	-28959.062680
834	-11164.948260
835	-4304.612825
836	-1659.712825
837	-639.992825
838	-1788.759580
839	844.330000
840	313.620000
841	120.920000
842	46.620000
843	-15938.142100
844	-5839.408260
845	-2251.442825
846	-868.102825
847	-334.802825
848	-3604.359580
849	144.350000
850	43.750000
851	16.870000
852	6.500000
853	-28056.142100
854	-10511.408260
855	-4052.642825
856	-1562.562825
857	-602.542825
858	-3245.230160

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Coordenada y	Valor y
859	237.000000
860	79.470000
861	30.650000
862	11.810000
863	-26286.662680
864	-10134.678260
865	-3907.372825
866	-1506.552825
867	-580.952825
868	-2937.870160
869	355.500000
870	125.160000
871	48.260000
872	18.600000
873	-24236.962680
874	-9344.448260
875	-3602.702825
876	-1389.092825
877	-535.662825
878	-3832.620160
879	10.540000
880	-7.840000
881	-3.010000
882	-1.170000
883	-0.000000
884	-0.000000
885	-0.000000
886	-0.000000
887	-0.000000
888	-3165.750160
889	267.640000
890	91.280000
891	35.190000
892	13.570000
893	-27801.062680
894	-10718.548260
895	-4132.482825
896	-1593.342825
897	-614.412825
898	-896.230160
899	1142.620000
900	428.620000
901	165.260000
902	63.710000
903	-10337.362680
904	-3985.448260
905	-1536.592825
906	-592.502825
907	-228.542825

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Coordenada y	Valor y
908	-2071.030160
909	689.690000
910	254.000000
911	97.930000
912	37.750000
913	-18178.362680
914	-7008.448260
915	-2702.092825
916	-1041.862825
917	-401.792825
918	-2529.930160
919	512.780000
920	185.790000
921	71.630000
922	27.620000
923	-23478.162680
924	-9051.948260
925	-3489.922825
926	-1345.602825
927	-518.902825
928	-4025.130160
929	-63.680000
930	-36.460000
931	-14.060000
932	-5.420000
933	-33649.162680
934	-12973.148260
935	-5001.722825
936	-1928.472825
937	-743.622825
938	669.769840
939	1746.360000
940	661.400000
941	255.000000
942	98.310000
943	-8567.062680
944	-3302.928260
945	-1273.462825
946	-491.042825
947	-189.442825
948	-427.363860
949	1323.402309
950	498.324987
951	192.204987
952	74.164987
953	-7485.056380
954	-2885.775951
955	-1112.597838
956	-428.997838

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Coordenada y	Valor y
957	-165.437838
958	1922.672520
959	2229.438260
960	847.642825
961	326.922825
962	126.152825
963	8197.400000
964	3160.500000
965	1218.500000
966	469.780000
967	181.120000
968	694.472520
969	1755.918260
970	665.082825
971	256.532825
972	99.012825
973	-0.000000
974	-0.000000
975	-0.000000
976	-0.000000
977	-0.000000
978	4407.383070
979	3187.397870
980	1216.983037
981	469.413037
982	181.183037
983	24771.410550
984	9550.489610
985	3682.150212
986	1419.710212
987	547.450212
988	5048.173070
989	3434.447870
990	1312.233037
991	506.133037
992	195.343037
993	29048.310550
994	11199.389610
995	4317.880212
996	1664.810212
997	641.950212
998	2457.683070
999	2435.707870
1000	927.173037
1001	357.683037
1002	138.103037
1003	11762.410550
1004	4534.989610
1005	1748.450212

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Coordenada y	Valor y
1006	674.190212
1007	260.020212
1008	6730.873070
1009	4083.197870
1010	1562.353037
1011	602.563037
1012	232.523037
1013	40490.310550
1014	15610.889610
1015	6018.680212
1016	2320.550212
1017	894.770212
1018	-3592.940160
1019	102.940000
1020	27.780000
1021	10.710000
1022	4.130000
1023	-37554.062680
1024	-14478.728260
1025	-5582.192825
1026	-2152.252825
1027	-829.912825
1028	-1589.830160
1029	875.220000
1030	325.520000
1031	125.510000
1032	48.390000
1033	-17287.062680
1034	-6664.848260
1035	-2569.652825
1036	-990.792825
1037	-382.102825
1038	-2059.840160
1039	694.000000
1040	255.660000
1041	98.570000
1042	38.000000
1043	-27129.062680
1044	-10459.328260
1045	-4032.592825
1046	-1554.792825
1047	-599.562825
1048	-4639.140160
1049	-300.430000
1050	-127.740000
1051	-49.250000
1052	-18.990000
1053	-44674.062680
1054	-17223.628260

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Coordenada y	Valor y
1055	-6640.492825
1056	-2560.292825
1057	-987.212825
1058	-1124.730160
1059	1054.520000
1060	394.660000
1061	152.160000
1062	58.660000
1063	-20772.062680
1064	-8008.428260
1065	-3087.662825
1066	-1190.482825
1067	-459.102825
1068	-2471.540160
1069	535.280000
1070	194.460000
1071	74.980000
1072	28.910000
1073	-23167.762680
1074	-8932.148260
1075	-3443.792825
1076	-1327.812825
1077	-512.032825
1078	-628.640160
1079	1245.800000
1080	468.390000
1081	180.590000
1082	69.630000
1083	-10871.662680
1084	-4191.448260
1085	-1616.052825
1086	-623.142825
1087	-240.352825
1088	466.659840
1089	1668.090000
1090	631.200000
1091	243.360000
1092	93.830000
1093	-3565.262680
1094	-1374.548260
1095	-530.052825
1096	-204.422825
1097	-78.922825
1098	1855.059840
1099	2203.370000
1100	837.570000
1101	322.930000
1102	124.510000
1103	5701.337320

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Coordenada y	Valor y
1104	2198.151740
1105	847.347175
1106	326.637175
1107	125.827175
1108	2762.849840
1109	2553.360000
1110	972.510000
1111	374.950000
1112	144.570000
1113	11760.237320
1114	4534.151740
1115	1747.967175
1116	673.867175
1117	259.697175
1118	-3005.540160
1119	329.400000
1120	115.090000
1121	44.370000
1122	17.110000
1123	-37602.362680
1124	-14497.308260
1125	-5589.372825
1126	-2155.042825
1127	-830.962825
1128	-3245.830160
1129	236.760000
1130	79.370000
1131	30.610000
1132	11.800000
1133	-28137.662680
1134	-10848.208260
1135	-4182.472825
1136	-1703.442825
1137	-656.852825
1138	-3993.430160
1139	-51.470000
1140	-31.750000
1141	-12.240000
1142	-4.720000
1143	-31008.762680
1144	-11955.208260
1145	-4609.282825
1146	-1777.172825
1147	-685.282825
1148	-3779.830160
1149	30.880000
1150	-0.000000
1151	-0.000000
1152	-0.000000

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Coordenada y	Valor y
1153	-29200.662680
1154	-11258.098260
1155	-4340.512825
1156	-1673.552825
1157	-645.332825
1158	-919.268930
1159	932.581230
1160	347.905100
1161	134.445100
1162	52.145100
1163	-10271.431450
1164	-5393.027030
1165	-2078.987725
1166	-801.347725
1167	-308.747725
1168	-2056.790160
1169	463.220000
1170	166.680000
1171	64.270000
1172	38.070000
1173	-24943.942100
1174	-9311.508260
1175	-3590.142825
1176	-1384.212825
1177	-533.782825
1178	-1656.063700
1179	849.689599
1180	315.690689
1181	121.740689
1182	46.950689
1183	-15682.956220
1184	-6046.468661
1185	-2331.172136
1186	-898.852136
1187	-346.632136
1188	-0.000000
1189	1488.169340
1190	561.850830
1191	216.710830
1192	83.630830
1193	-4633.582520
1194	-1786.408920
1195	-688.751995
1196	-265.571995
1197	-102.411995
1198	3125.261500
1199	2693.086780
1200	1026.405508
1201	395.885508

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Coordenada y	Valor y
1202	152.785508
1203	16217.088980
1204	6252.388520
1205	2410.572683
1206	929.422683
1207	358.372683
1208	-1803.430160
1209	792.870000
1210	293.770000
1211	137.750000
1212	53.110000
1213	-15339.862680
1214	-5914.118260
1215	-2859.092825
1216	-1102.382825
1217	-425.122825
1218	-2671.530160
1219	-25.850000
1220	-21.880000
1221	-8.430000
1222	-3.250000
1223	-35563.706020
1224	-13711.108260
1225	-5286.272825
1226	-2128.992825
1227	-820.922825

## 4 Observações

- O solver HiGHS foi configurado com o método IPM (Interior Point Method).
- Este arquivo contém a solução detalhada para o problema sierra.
- As variáveis duais representam os multiplicadores de Lagrange das restrições.
- Os custos reduzidos (z) indicam o impacto de forçar variáveis não-básicas na base.