LISTATO DI CALCOLO – FASE 3 – SEZ B – COESIONE 0

RICERCA SUPERFICIE CRITICA CIRCOLARE

Analisi di stabilità dei pendii con: JANBU (1956)

Lat./Long.	44.416126/9.128522
Normativa	NTC 2008
Numero di strati	4.0
Numero dei conci	25.0
Grado di sicurezza ritenuto accettabile	1.1
Coefficiente parziale resistenza	1.1
Analisi	Condizione drenata
Superficie di forma circolare	

Maglia dei Centri

Ascissa vertice sinistro inferiore xi	0.0 m
Ordinata vertice sinistro inferiore yi	80.0 m
Ascissa vertice destro superiore xs	160.0 m
Ordinata vertice destro superiore ys	350.0 m
Passo di ricerca	10.0
Numero di celle lungo x	20.0
Numero di celle lungo y	20.0

Coefficienti sismici [N.T.C.]

Dati generali

Tipo opera:	2 - Opere ordinarie
Classe d'uso:	Classe I
Vita nominale:	50.0 [anni]
Vita di riferimento:	35.0 [anni]

Parametri sismici su sito di riferimento

Categoria sottosuolo:	C
Categoria topografica:	T3

S.L. Stato limite	TR Tempo ritorno [anni]	ag [m/s²]	F0 [-]	TC* [sec]
S.L.O.	30.0	0.27	2.5	0.2
S.L.D.	35.0	0.29	2.52	0.2
S.L.V.	332.0	0.73	2.53	0.28
S.L.C.	682.0	0.96	2.5	0.29

Coefficienti sismici orizzontali e verticali

Opera: Stabilità dei pendii e Fondazioni

S.L. Stato limite	amax [m/s²]	beta [-]	kh [-]	kv [sec]
S.L.O.	0.486	0.2	0.0099	0.005
S.L.D.	0.522	0.2	0.0106	0.0053
S.L.V.	1.314	0.2	0.0268	0.0134
S.L.C.	1.728	0.2	0.0352	0.0176

Coefficiente azione sismica orizzontale	0.027
Coefficiente azione sismica verticale	0.01 3

Vertici profilo

N	X	y

	m	m
1	0.0	0.0
2	26.2	17.22
3	29.65	17.44
4	33.37	16.92
5	46.1	17.82
6	57.38	17.82
7	59.14	21.76
8	77.88	24.89
9	79.34	28.89
10	87.43	30.89
11	93.0	30.89
12	94.49	34.89
13	102.3	37.98
14	107.65	37.98
15	109.05	41.99
16	116.97	45.81
17	122.21	45.81
18	123.59	49.81
19	131.26	51.82
20	136.53	51.82
21	137.85	56.02
22	146.05	58.02
23	154.97	58.02
24	156.3	62.15
25	163.54	64.15
26	169.16	64.15
27	170.53	68.15
28	178.28	70.31
29	183.72	70.31
30	185.08	74.31
31	192.8	76.52
32	198.04	76.52
33	199.35	80.52
34	206.52	83.34
35	211.46	83.34
36	212.64	86.34
37	219.78	89.01
38	224.57	89.01
39	225.86	90.82
40	271.64	88.91
41	282.7	88.53
42	289.11	88.6 8

Falda

Nr.	X (m)	y (m)
1	-0.3	-0.52
2	39.1	10.3
3	82.12	14.39
4	121.91	24.44
5	159.28	41.98
6	179.86	58.11
7	202.99	68.81
8	231.62	74.84
9	257.74	77.35
10	289.64	80.6 2

Vertici strato 1

N	X (m)	y (m)
1	0.0	0.0
2	26.2	17.22

3	29.65	17.44
4	33.37	16.92
5	36.74	13.96
6	37.68	12.99
7	64.06	13.96
8	76.83	15.78
9	98.11	17.87
10	110.05	22.38
11	132.06	29.02
12	146.92	36.18
13	155.14	41.22
14	161.51	46.52
15	169.47	50.77
16	178.51	60.13
17	197.55	68.85
18	208.25	71.0
19	228.49	80.0
20	272.76	88.87
21	282.7	88.53
22	289.11	88.6 8

Vertici strato 2

N	X (m)	y (m)
1	0.0	0.0
2	26.2	17.27
3	29.65	17.44
4	33.37	16.92
5	36.74	13.96
6	38.56	12.1
7	64.37	12.92
8	76.19	14.76
9	85.97	15.84
10	98.38	17.08
11	110.84	21.59
12	132.6	28.22
13	147.98	36.18
14	153.82	40.16
15	162.57	45.73
16	169.2	49.18
17	174.21	54.9
18	178.51	59.23
19	197.94	67.72
20	212.1	70.67
21	223.0	75.35
22	230.56	77.31
23	262.24	80.63
24	281.0	81.67
25	289.11	83.6 9

Vertici strato 3

N	X (m)	y (m)
1	0.0	0.0
2	26.2	17.22
3	29.65	17.44
4	33.37	16.92
5	36.74	13.96
6	42.18	8.4
7	65.63	9.78
8	79.0	11.82
9	93.34	13.63
10	132.33	25.3
11	147.96	31.81

12	159.17	38.21
13	167.34	43.58
14	176.99	52.15
15	182.36	55.06
16	192.72	59.7
17	209.83	66.16
18	232.16	72.24
19	275.95	77.07
20	289.11	79.45

Coefficienti parziali per i parametri geotecnici del terreno

Tangente angolo di resistenza al taglio	1.25
Coesione efficace	1.25
Coesione non drenata	1.4
Riduzione parametri geotecnici terreno	Si

Stratigrafia

c: coesione; cu: coesione non drenata; Fi: Angolo di attrito; G: Peso Specifico; Gs: Peso Specifico Saturo; K: Modulo di Winkler

Strato	c (kg/cm²)	cu (kg/cm²)	Fi (°)	G (Kg/m³)	Gs (Kg/m³)	K (Kg/cm³)	Litologia	
1	0		29.60	1837	2063	0.00		
2	0		26.51	1695	1905	0.00		
3	0.3305		30.52	2402	2698	0.00		
4	0.4352		33.31	2402	2698	0.00		

Terra rinforzata

No	X (m)	Y (m)	Stato	Tipologia
1	57.38	17.82	Attivato	terra 4
2	77.88	24.89	Attivato	terra 4
3	198.04	76.52	Attivato	terra 4
4	211.46	83.34	Attivato	terra 4
5	93	30.89	Attivato	terre 18m
6	107.65	37.98	Attivato	terre 18m
7	122.21	45.81	Attivato	terre 18m
8	136.53	51.82	Attivato	terre 18m
9	154.97	58.02	Attivato	terre 18m
10	169.16	64.15	Attivato	terre 18m
11	183.72	70.31	Attivato	terre 18m

Risultati analisi pendio [NTC 2008: [A2+M2+R2]]

Fs minimo individuato	1.12
Ascissa centro superficie	20.0 m
Ordinata centro superficie	343.25 m
Raggio superficie	325.8 m

Numero di superfici esaminate....(684)

N°	Xo	Yo	Ro	Fs
1	0.0	80.0	72.2	3.17
2	4.0	86.8	78.4	3.10
3	8.0	80.0	72.6	2.88
4	12.0	86.8	79.0	3.14
5	16.0	80.0	73.7	3.26
6	20.0	86.8	80.3	3.17
7	24.0	80.0	67.3	5.91

8	28.0	86.8	81.9	2.86
9	32.0	80.0	75.9	2.88
10	36.0	86.8	81.9	2.91
11	40.0	80.0	67.8	2.98
12	44.0	86.8	73.1	2.30
13	48.0	80.0	67.8	2.60
14	52.0	86.8	73.1	1.76
15	56.0	80.0	59.8	1.31
16	60.0	86.8	73.1	1.39
17	64.0	80.0	67.9	1.59
18	68.0	86.8	73.1	1.35
19	72.0	80.0	67.9	1.37
20	76.0	86.8	73.1	1.32
21	80.0	80.0	59.8	1.24
22	84.0	86.8	64.2	1.24
23	88.0	80.0	59.6	1.23
24	92.0	86.8	64.2	1.17
25	96.0	80.0	59.4	1.19
26	100.0	86.8	63.7	1.27
27	104.0	80.0	51.7	1.21
28	108.0	86.8	64.2	1.36
29	112.0	80.0	50.7	1.36
30	116.0	86.8	55.3	1.39
31	120.0	80.0	50.8	1.47
32	124.0	86.8	54.7	1.43
33	128.0	80.0	51.7	1.50
34	132.0	86.8	54.5	1.55
35	136.0	80.0	42.9	1.55
36	140.0	86.8	46.2	1.46
37	144.0	80.0	42.7	1.64
38	148.0	86.8	45.6	1.68
39	152.0	80.0	51.7	1.78
40	156.0	86.8	54.9	1.68
41	160.0	80.0	34.8	1.85
42	0.0	93.5	84.6	3.56
43	4.0	100.3	90.3	3.86
44	20.0	100.3	92.1	3.41
45	24.0	93.5	87.3	3.01
46	28.0	100.3	93.8	2.81
47	32.0	93.5	78.7	12.03
48	36.0	100.3	94.0	2.68
49	40.0	93.5	78.7	2.68
50	44.0	100.3	83.8	1.44
51	48.0	93.5	78.6	1.96
52	52.0	100.3	83.8	1.85
53	56.0	93.5	78.6	1.54
54	60.0	100.3	83.9	1.46
55	64.0	93.5	78.5	1.31
56	68.0	100.3	84.0	1.26
57	72.0	93.5	78.5	1.21
58	76.0	100.3	84.0	1.17
59	80.0	93.5	78.4	1.26
60	84.0	100.3	84.1	1.25
61	88.0	93.5	68.8	1.21
62	92.0	100.3	73.6	1.18
63	96.0	93.5	68.7	1.21
64	100.0	100.3	74.2	1.21
65	104.0	93.5	68.6	1.24
66	108.0	100.3	73.7	1.29
67	112.0	93.5	58.9	1.32
68	116.0	100.3	63.6	1.32
69	120.0	93.5	58.7	1.43
70	124.0	100.3	64.5	1.33

71	128.0	93.5	58.6	1.36
72	132.0	100.3	83.9	1.58
73	136.0	93.5	58.5	1.59
74	140.0	100.3	73.3	1.54
75	144.0	93.5	68.3	1.60
76	148.0	100.3	53.4	1.52
77	152.0	93.5	58.7	1.62
78	156.0	100.3	53.1	1.45
79	160.0	93.5	39.0	1.47
80	8.0	107.0	97.3	3.72
81	24.0	107.0	99.5	2.91
82	32.0	107.0	90.4	41.73
83	36.0	113.8	107.5	2.47
84	40.0	107.0	90.5	19.83
85	44.0	113.8	97.3	1.83
86	48.0	107.0	90.6	1.63
87	52.0	113.8	97.3	1.51
88	56.0	107.0	90.6	1.58
89	60.0	113.8	97.4	1.26
90	64.0	107.0	90.7	1.23
91	68.0	113.8	97.5	1.18
92	72.0	107.0	90.8	1.17
93	76.0	113.8	97.5	1.22
94	80.0	107.0	90.8	1.16
95	84.0	113.8	86.9	1.23
96	88.0	107.0	80.2	1.17
97	92.0	113.8	84.7	1.31
98	96.0	107.0	78.0	1.26
99	100.0	113.8	82.5	1.23
100	104.0	107.0	78.8	1.28
101	108.0	113.8	83.1	1.32
102	112.0	107.0	78.9	1.24
103	116.0	113.8	84.0	1.41
104	120.0	107.0	78.1	1.44
105	124.0	113.8	82.5	1.41
106	128.0	107.0	68.0	1.50
107	132.0	113.8	71.4	1.40
108	136.0	107.0	68.2	1.48
109	140.0	113.8	72.8	1.44
110	144.0	107.0	66.9	1.48
111	148.0	113.8	71.5	1.45
112	152.0	107.0	67.3	1.52
113	156.0	113.8	58.9	1.27
114	160.0	107.0	56.3	1.44
115	16.0	120.5	111.5	3.37
116	20.0	127.3	118.7	2.86
117	28.0	127.3	120.1	2.67
118	32.0	120.5	114.2	2.49
119	36.0	127.3	121.0	2.20
120	40.0	120.5	104.0	21.19
121	44.0	127.3	121.0	1.99
122	48.0	120.5	104.0	1.61
123	52.0	127.3	110.8	1.44
124	56.0	120.5	104.1	1.34
125	60.0	127.3	110.9	1.21
126	64.0	120.5	104.2	1.20
127	68.0	127.3	111.0	1.16
128	72.0	120.5	104.2	1.20
129	76.0	127.3	110.5	1.16
130	80.0	120.5	103.8	1.20
131	84.0	127.3	109.1	1.23
132	88.0	120.5	91.3	1.24
133	92.0	127.3	107.6	1.30

134	96.0	120.5	89.1	1.27
135	100.0	127.3	93.6	1.28
136	104.0	120.5	87.4	1.33
137	108.0	127.3	92.4	1.32
138	112.0	120.5	87.4	1.27
139	116.0	127.3	92.1	1.30
140	120.0	120.5	88.9	1.36
141	124.0	127.3	93.3	1.36
142	128.0	120.5	87.6	1.42
143	132.0	127.3	92.7	1.40
144	136.0	120.5	74.9	1.45
145	140.0	127.3	79.2	1.38
146	144.0	120.5	76.2	1.38
147	148.0	127.3	79.6	1.30
148	152.0	120.5	76.2	1.49
149	156.0	127.3	80.4	1.44
150	160.0	120.5	63.1	1.20
151	0.0	134.0	124.0	4.21
152	20.0	140.8	132.1	3.00
153	28.0	140.8	133.3	2.34
154	32.0	134.0	127.5	2.33
155	36.0	140.8	124.2	27.05
156	40.0	134.0	127.7	2.01
157	44.0	140.8	134.5	1.84
158	48.0	134.0	117.5	1.56
159	52.0	140.8	124.3	1.36
160	56.0	134.0	117.6	1.27
161	60.0	140.8	124.4	1.15
162	64.0	134.0	117.7	1.16
163	68.0	140.8	123.9	1.16
164	72.0	134.0	117.2	1.16
165	76.0	140.8	122.4	1.21
166	80.0	134.0	115.7	1.20
167	84.0	140.8	121.0	1.17
168	88.0	134.0	114.3	1.13
169	92.0	140.8	119.5	1.30
170	96.0	134.0	100.2	1.34
171	100.0	140.8	118.0	1.31
172	104.0	134.0	98.0	1.38
173	108.0	140.8	116.6	1.39
174	112.0	134.0	97.3	1.32
175	116.0	140.8	102.3	1.32
176	120.0	134.0	97.2	1.27
177	124.0	140.8	102.4	1.31
178	128.0	134.0	97.6	1.36
179	132.0	140.8	101.9	1.38
180	136.0	134.0	97.9	1.44
181	140.0	140.8	102.3	1.43
182	144.0	134.0	83.9	1.37
183	148.0	140.8	88.5	1.30
184	152.0	134.0	83.0	1.28
185	156.0	140.8	86.2	1.26
186	160.0	134.0	83.0	1.47
187	0.0	147.5	137.5	4.27
188	4.0	154.3	144.3	4.13
189	8.0	147.5	137.7	4.06
190	16.0	147.5	138.3	2.78
191	20.0	154.3	145.5	2.57
192	36.0	154.3	137.7	26.27
193	40.0	147.5	141.2	1.87
194	44.0	154.3	137.8	1.57
195	48.0	147.5	131.0	1.49
196	52.0	154.3	137.8	1.20

197	56.0	147.5	131.1	1.18
198	60.0	154.3	137.3	1.19
199	64.0	147.5	130.6	1.17
200	68.0	154.3	135.8	1.20
201	72.0	147.5	129.1	1.21
202	76.0	154.3	134.3	1.19
203	80.0	147.5	127.6	1.19
204	84.0	154.3	132.9	1.20
205	88.0	147.5	126.2	1.18
206	92.0	154.3	131.4	1.26
207	96.0	147.5	124.7	1.22
208	100.0	154.3	129.9	1.30
209	104.0	147.5	123.3	1.35
210	108.0	154.3	128.5	1.32
211	112.0	147.5	121.8	1.36
212	116.0	154.3	127.0	1.37
213	120.0	147.5	106.8	1.32
214	124.0	154.3	111.1	1.32
215	128.0	147.5	107.6	1.32
216	132.0	154.3	112.7	1.31
217	136.0	147.5	106.2	1.33
218	140.0	154.3	111.1	1.38
219	144.0	147.5	106.6	1.44
220	148.0	154.3	109.0	1.49
221	152.0	147.5	91.5	1.14
222	156.0	154.3	104.9	1.49
223	160.0	147.5	86.2	1.25
224	12.0	167.8	158.2	2.71
225	16.0	161.0	151.8	2.89
226	20.0	167.8	158.9	2.39
227	28.0	167.8	159.9	1.95
228	32.0	161.0	153.9	1.89
229	36.0	167.8	161.3	1.77
230	40.0	161.0	144.5	1.78
231	44.0	167.8	151.3	1.44
232	48.0	161.0	144.5	1.26
233	52.0	167.8	150.6	1.21
234	56.0	161.0	143.9	1.20
235	60.0	167.8	149.2	1.16
236	64.0	161.0	142.5	1.16
237	68.0	167.8	147.7	1.20
238	72.0	161.0	141.0	1.20
239	76.0	167.8	146.2	1.20
240	80.0	161.0	139.5	1.19
241	84.0	167.8	144.8	1.20
242	88.0	161.0	138.1	1.25
243	92.0	167.8	143.3	1.22
244	96.0	161.0	136.6	1.25
245	100.0	167.8	141.8	1.26
246	104.0	161.0	135.2	1.29
247	108.0	167.8	140.4	1.30
248	112.0	161.0	133.7	1.34
249	116.0	167.8	138.9	1.37
250	120.0	161.0	132.2	1.39
251	124.0	167.8	120.3	1.34
252	128.0	161.0	115.6	1.29
253	132.0	167.8	120.8	1.23
254	136.0	161.0	117.0	1.35
255	140.0	167.8	119.3	1.27
256	144.0	161.0	114.2	1.38
257	148.0	167.8	114.4	1.30
258	152.0	161.0	108.9	1.28
259	156.0	167.8	109.2	1.21

260	160.0	161.0	104.1	1.30
261	0.0	174.5	164.5	4.30
262	4.0	181.3	171.3	4.36
263	8.0	174.5	164.7	3.35
264	12.0	181.3	171.6	2.77
265	16.0	174.5	165.2	2.63
266	28.0	181.3	173.3	1.75
267	32.0	174.5	167.2	1.76
268	40.0	174.5	158.0	1.64
269	44.0	181.3	174.6	1.73
270	48.0	174.5	157.3	1.18
271	52.0	181.3	162.5	1.20
272	56.0	174.5	155.8	1.18
273	60.0	181.3	161.1	1.21
274	64.0	174.5	154.4	1.20
275	68.0	181.3	159.6	1.19
276	72.0	174.5	152.9	1.21
277	76.0	181.3	158.1	1.18
278	80.0	174.5	151.5	1.18
279	84.0	181.3	156.7	1.17
280	88.0	174.5	150.0	1.25
281	92.0	181.3	155.2	1.25
282	96.0	174.5	148.5	1.23
283	100.0	181.3	153.7	1.26
284	104.0	174.5	147.1	1.31
285	108.0	181.3	152.3	1.33
286	112.0	174.5	145.6	1.34
287	116.0	181.3	150.8	1.40
288	120.0	174.5	144.1	1.43
289	124.0	181.3	149.4	1.45
290	128.0	174.5	125.1	1.23
291	132.0	181.3	128.1	1.44
292	136.0	174.5	123.9	1.27
293	140.0	181.3	124.3	1.48
294	144.0	174.5	118.7	1.14
295	148.0	181.3	135.2	1.61
296	152.0	174.5	114.2	1.27
297	156.0	181.3	130.0	1.64
298	160.0	174.5	109.8	1.41
299	0.0	188.0	178.0	4.32
300	4.0	194.8	184.8	4.39
301	12.0	194.8	185.1	2.52
302	16.0	188.0	178.6	2.51
303	28.0	194.8	186.6	1.68
304	32.0	188.0	180.5	1.71
305	36.0	194.8	176.8	1.72
306	44.0	194.8	175.9	1.29
307	48.0	188.0	169.2	1.24
308	52.0	194.8	174.4	1.19
309	56.0	188.0	167.7	1.17
310	60.0	194.8	173.0	1.20
311	64.0	188.0	166.3	1.19
312	68.0	194.8	171.5	1.21
313	72.0	188.0	164.8	1.18
314	76.0	194.8	170.0	1.16
315	80.0	188.0	163.4	1.19
316	84.0	194.8	168.6	1.21
317	88.0	188.0	161.9	1.20
318	92.0	194.8	167.1	1.21
319	96.0	188.0	160.4	1.26
320	100.0	194.8	165.6	1.27
321	104.0	188.0	159.0	1.30
322	108.0	194.8	164.2	1.35

323	112.0	188.0	157.5	1.36
324	116.0	194.8	162.7	1.42
325	120.0	188.0	156.0	1.44
326	124.0	194.8	159.3	1.44
327	128.0	188.0	152.4	1.48
328	132.0	194.8	152.5	1.46
329	136.0	188.0	146.3	1.50
330	140.0	194.8	146.4	1.49
331	144.0	188.0	141.9	1.56
332	148.0	194.8	142.4	1.46
333	152.0	188.0	135.5	1.53
334	156.0	194.8	136.5	1.41
335	160.0	188.0	130.3	1.47
336	0.0	201.5	191.5	4.46
337	8.0	201.5	191.6	3.08
338	12.0	208.3	198.6	2.30
339	20.0	208.3	199.2	1.77
340	28.0	208.3	199.6	1.60
341	32.0	201.5	193.4	1.60
342	36.0	208.3	199.9	1.57
343	40.0	201.5	182.5	1.46
344	44.0	208.3	187.8	1.41
345	48.0	201.5	181.1	1.24
346	52.0	208.3	186.3	1.26
347	56.0	201.5	179.6	1.21
348	60.0	208.3	184.9	1.20
349	64.0	201.5	178.2	1.23
350	68.0	208.3	183.4	1.19
351	72.0	201.5	176.7	1.18
352	76.0	208.3	181.9	1.15
353	80.0	201.5	175.3	1.19
354	84.0	208.3	180.5	1.19
355	88.0	201.5	173.8	1.18
356	92.0	208.3	179.0	1.23
357	96.0	201.5	172.3	1.24
358	100.0	208.3	177.6	1.28
359	104.0	201.5	170.9	1.31
360	108.0	208.3	176.1	1.37
361	112.0	201.5	169.4	1.39
362	116.0	208.3	173.1	1.43
363	120.0	201.5	166.2	1.44
364	124.0	208.3	166.5	1.45
365	128.0	201.5	159.4	1.44
366	132.0	208.3	159.9	1.28
367	136.0	201.5	152.8	1.31
368	140.0	208.3	153.4	1.33
369	144.0	201.5	147.4	1.32
370	148.0	208.3	148.6	1.25
371	152.0	201.5	142.9	1.34
372	156.0	208.3	143.7	1.38
373	160.0	201.5	137.8	1.35
374	0.0	215.0	205.0	4.47
375	4.0	221.8	211.8	2.86
376	16.0	215.0	205.6	1.93
377	20.0	221.8	212.1	1.60
378	24.0	215.0	205.8	1.61
379	28.0	221.8	212.2	1.57
380	32.0	215.0	194.6	3.15
381	36.0	221.8	212.5	1.51
382	40.0	215.0	206.4	1.55
383	44.0	221.8	199.7	1.47
384	48.0	215.0	193.0	1.28
385	52.0	221.8	198.2	1.29

386	56.0	215.0	191.5	1.23
387	60.0	221.8	196.8	1.28
388	64.0	215.0	190.1	1.22
389	68.0	221.8	195.3	1.20
390	72.0	215.0	188.6	1.16
391	76.0	221.8	193.8	1.20
392	80.0	215.0	187.2	1.18
393	84.0	221.8	192.4	1.15
394	88.0	215.0	185.7	1.19
395	92.0	221.8	190.9	1.24
396	96.0	215.0	184.2	1.29
397	100.0	221.8	189.5	1.32
398	104.0	215.0	182.8	1.34
399	108.0	221.8	187.2	1.38
400	112.0	215.0	180.1	1.37
401	116.0	221.8	180.6	1.34
402	120.0	215.0	173.5	1.39
403	124.0	221.8	174.1	1.31
404	128.0	215.0	167.0	1.28
405	132.0	221.8	167.7	1.22
406	136.0	215.0	160.5	1.27
407	140.0	221.8	161.4	1.39
408	144.0	215.0	154.2	1.35
409	148.0	221.8	174.6	1.81
410	152.0	215.0	150.0	1.48
411	156.0	221.8	151.8	1.29
412	160.0	215.0	144.8	1.41
413	0.0	228.5	218.5	3.28
414	4.0	235.3	225.3	2.54
415	8.0	228.5	218.6	2.44
416	16.0	228.5	218.5	1.70
417	24.0	228.5	218.4	1.53
418	28.0	235.3	224.8	1.47
419	36.0	235.3	225.0	1.43
420	40.0	228.5	219.0	1.44
421	44.0	235.3	225.4	1.50
422	48.0	228.5	204.9	1.44
423	52.0	235.3	210.1	1.36
424	56.0	228.5	203.4	1.35
425	60.0	235.3	208.7	1.31
426	64.0	228.5	202.0	1.25
427	68.0	235.3	207.2	1.20
428	72.0	228.5	200.5	1.15
429	76.0	235.3	205.7	1.22
430	80.0	228.5	199.1	1.20
431	84.0	235.3	204.3	1.15
432	88.0	228.5	197.6	1.19
433	92.0	235.3	202.8	1.23
434	96.0	228.5	196.1	1.29
435	100.0	235.3	201.4	1.34
436	104.0	228.5	194.3	1.37
437	108.0	235.3	194.9	1.26
438	112.0	228.5	187.7	1.34
439	116.0	235.3	188.5	1.29
440	120.0	228.5	181.3	1.29
441	124.0	235.3	182.2	1.25
442	128.0	228.5	174.9	1.22
443	132.0	235.3	176.0	1.56
444	136.0	228.5	168.7	1.50
445	148.0	235.3	183.7	1.82
446	156.0	235.3	178.3	1.74
447	0.0	242.0	232.0	3.21
448	4.0	248.8	238.2	2.37

449	8.0	242.0	231.6	2.16
450	12.0	248.8	237.7	1.67
451	16.0	242.0	231.2	1.64
452	28.0	248.8	237.4	1.44
453	32.0	242.0	218.2	5.59
454	36.0	248.8	223.8	2.91
455	40.0	242.0	231.5	1.40
456	44.0	248.8	238.0	1.46
457	48.0	242.0	216.8	1.54
458	52.0	248.8	237.4	1.52
459	56.0	242.0	215.3	1.41
460	60.0	248.8	220.6	1.35
461	64.0	242.0	213.9	1.25
462	72.0	242.0	212.4	1.18
463	76.0	248.8	217.6	1.20
464	80.0	242.0	211.0	1.20
465	84.0	248.8	216.2	1.20
466	88.0	242.0	209.5	1.21
467	92.0	248.8	214.7	1.28
468	96.0	242.0	208.0	1.34
469	100.0	248.8	209.3	1.23
470	104.0	242.0	202.1	1.24
471	108.0	248.8	203.0	1.28
472	112.0	242.0	195.7	1.30
473	116.0	248.8	196.8	1.37
474	120.0	242.0	189.5	1.31
475	124.0	248.8	190.6	1.71
476	128.0	242.0	183.3	1.63
477	132.0	248.8	204.5	1.71
478	140.0	248.8	198.7	1.74
479	152.0	242.0	185.6	1.70
480	156.0	248.8	187.7	1.69
481	4.0	262.3	250.9	2.17
482	8.0	255.5	244.3	1.89
483	28.0	262.3	250.0	1.35
484	32.0	255.5	243.8	1.36
485	36.0	262.3	235.6	3.43
486	40.0	255.5	244.0	1.38
487	44.0	262.3	250.5	1.40
488	52.0	262.3	250.1	1.47
489	56.0	255.5	243.4	1.48
490	60.0	262.3	232.5	1.34
491	64.0	255.5	225.8	1.26
492	68.0	262.3	231.0	1.18
493	72.0	255.5	224.3	1.16
494	76.0	262.3	229.5	1.19
495	80.0	255.5	222.9	1.19
496	84.0	262.3	228.1	1.20
497	88.0	255.5	221.4	1.16
498	92.0	262.3	223.7	1.24
499	96.0	255.5	216.5	1.24
500	108.0	262.3	211.3	1.50
501	112.0	255.5	204.0	1.42
502	116.0	262.3	205.2	1.98
503	120.0	255.5	217.7	1.63
504	128.0	255.5	211.9	1.69
505	132.0	262.3	213.8	1.70
506	136.0	255.5	206.2	1.74
507	140.0	262.3	208.2	1.59
508	144.0	255.5	200.7	1.61
509	0.0	269.0	257.6	5.52
510	8.0	269.0	257.0	1.79
511	16.0	269.0	256.6	1.47

512	20.0	275.8	262.8	1.40
513	24.0	269.0	256.4	1.36
514	32.0	269.0	256.4	1.24
515	36.0	275.8	262.8	1.23
516	40.0	269.0	256.6	1.21
517	44.0	275.8	263.1	1.31
518	48.0	269.0	240.6	1.80
519	52.0	275.8	262.8	1.44
520	56.0	269.0	256.1	1.48
521	60.0	275.8	244.4	1.36
522	64.0	269.0	237.7	1.24
523	68.0	275.8	242.9	1.16
524	72.0	269.0	236.2	1.18
525	76.0	275.8	241.4	1.19
526	80.0	269.0	234.7	1.20
527	84.0	275.8	238.1	1.25
528	88.0	269.0	230.9	1.27
529	92.0	275.8	231.9	1.26
530	100.0	275.8	245.9	1.53
531	104.0	269.0	218.6	1.61
532	108.0	275.8	240.1	1.57
533	128.0	269.0	221.3	1.68
534	132.0	275.8	223.4	1.55
535	136.0	269.0	215.8	1.56
536	148.0	275.8	212.9	1.46
537	156.0	275.8	207.9	1.67
538	160.0	269.0	200.3	1.71
539	0.0	282.5	270.3	6.29
540	8.0	282.5	269.7	1.75
541	12.0	289.3	275.8	1.45
542	20.0	289.3	275.4	1.34
543	32.0	282.5	269.0	1.24
544	36.0	289.3	259.2	7.94
545	40.0	282.5	269.2	1.25
546	48.0	282.5	269.5	1.39
547	52.0	289.3	275.4	1.38
548	56.0	282.5	268.7	1.45
549	60.0	289.3	256.1	1.41
550	64.0	282.5	249.5	1.24
551	68.0	289.3	254.6	1.19
552	72.0	282.5	248.0	1.16
553	76.0	289.3	252.6	1.21
554	80.0	282.5	245.4	1.24
555	84.0	289.3	246.5	1.41
556	88.0	282.5	239.2	1.31
557	92.0	289.3	260.8	1.50
558	96.0	282.5	253.4	1.51
559	100.0	289.3	255.1	1.55
560	108.0	289.3	249.5	1.60
561	112.0	282.5	241.9	1.60
562	136.0	282.5	225.7	1.64
563	140.0	289.3	228.2	1.39
564	144.0	282.5	220.5	1.42
565	148.0	289.3	223.2	1.61
566	156.0	289.3	218.4	1.62
567	160.0	282.5	210.7	1.65
568	4.0	302.8	289.0	8.49
569	8.0	296.0	282.4	7.78
570	20.0	302.8	288.0	1.28
571	24.0	296.0	281.6	1.25
572	28.0	302.8	287.9	1.21
573	32.0	296.0	281.6	1.21
574	36.0	302.8	287.9	1.20

575	40.0	296.0	264.7	7.61
576	44.0	302.8	288.0	1.31
577	48.0	296.0	282.0	1.38
578	52.0	302.8	269.3	2.09
579	56.0	296.0	281.4	1.42
580	60.0	302.8	267.8	1.48
581	64.0	296.0	280.6	1.48
582	68.0	302.8	266.3	1.21
583	72.0	296.0	259.7	1.16
584	76.0	302.8	281.6	1.48
585	80.0	296.0	253.8	1.49
586	84.0	302.8	275.8	1.49
587	88.0	296.0	268.3	1.50
588	92.0	302.8	270.1	1.54
589	96.0	296.0	262.6	1.54
590	104.0	296.0	257.0	1.55
591	108.0	302.8	259.1	1.59
592	112.0	296.0	251.5	1.59
593	116.0	302.8	253.7	1.49
594	132.0	302.8	243.4	1.37
595	140.0	302.8	238.5	1.64
596	144.0	296.0	230.8	1.62
597	148.0	302.8	233.7	1.64
598	152.0	296.0	226.0	1.67
599	156.0	302.8	229.1	1.55
600	160.0	296.0	221.4	1.59
601	0.0	309.5	295.6	9.69
602	4.0	316.3	301.6	12.16
603	8.0	309.5	295.0	10.04
604	16.0	309.5	294.5	11.15
605	20.0	316.3	300.6	13.81
606	24.0	309.5	294.2	1.19
607	28.0	316.3	300.4	1.19
608	32.0	309.5	294.1	1.17
609	40.0	309.5	276.3	19.21
610	44.0	316.3	300.5	1.32
611	48.0	309.5	294.4	1.38
612	52.0	316.3	281.0	2.40
613	56.0	309.5	274.4	1.82
614	60.0	316.3	299.9	1.46
615	64.0	309.5	272.9	1.35
616	72.0	309.5	289.0	1.47
617	76.0	316.3	290.8	1.47
618	80.0	309.5	262.4	20.00
619	84.0	316.3	285.1	1.50
620	88.0	309.5	277.6	1.53
621	92.0	316.3	279.6	1.51
622	96.0	309.5	272.1	1.54
623	104.0	309.5	266.6	1.58
624	108.0	316.3	268.9	1.49
625	112.0	309.5	261.3	1.48
626	116.0	316.3	263.7	1.57
627	124.0	316.3	258.7	1.38
628	136.0	309.5	246.1	1.60
629	8.0	323.0	307.6	18.35
630	16.0	323.0	307.1	18.11
631	20.0	329.8	313.2	38.18
632	24.0	323.0	306.8	20.11
633	28.0	329.8	313.0	33.75
634	32.0	323.0	306.7	1.18
635	36.0	329.8	312.9	1.25
636	40.0	323.0	306.7	1.24
637	44.0	329.8	313.0	1.33

638	48.0	323.0	287.3	9.94
639	52.0	329.8	292.8	3.41
640	56.0	323.0	306.6	1.44
641	60.0	329.8	311.5	1.47
642	64.0	323.0	304.0	1.47
643	68.0	329.8	305.8	1.47
644	72.0	323.0	298.3	1.48
645	76.0	329.8	300.2	1.47
646	84.0	329.8	294.7	1.48
647	96.0	323.0	281.8	1.53
648	104.0	323.0	276.5	1.47
649	112.0	323.0	271.4	1.47
650	148.0	329.8	255.3	1.54
651	152.0	323.0	247.6	1.57
652	156.0	329.8	251.0	1.64
653	12.0	343.3	326.2	1.24
654	20.0	343.3	325.8	1.12
655	36.0	343.3	325.5	1.25
656	40.0	336.5	319.2	1.30
657	48.0	336.5	319.4	1.36
658	52.0	343.3	325.8	1.42
659	60.0	343.3	320.8	1.43
660	64.0	336.5	313.3	1.46
661	68.0	343.3	315.3	1.45
662	72.0	336.5	307.8	1.47
663	76.0	343.3	309.9	1.47
664	80.0	336.5	302.3	1.47
665	88.0	336.5	297.0	1.52
666	92.0	343.3	299.4	1.45
667	100.0	343.3	294.3	1.45
668	104.0	336.5	286.6	1.47
669	124.0	343.3	279.7	1.64
670	128.0	336.5	272.0	1.67
671	132.0	343.3	275.1	1.52
672	136.0	336.5	267.4	1.42
673	140.0	343.3	270.6	1.48
674	148.0	343.3	266.3	1.56
675	16.0	350.0	332.3	1.14
676	24.0	350.0	331.9	1.16
677	40.0	350.0	331.8	1.31
678	56.0	350.0	328.4	1.43
679	64.0	350.0	322.9	1.44
680	80.0	350.0	312.2	1.48
681	104.0	350.0	296.9	1.39
682	112.0	350.0	292.1	1.55
683	120.0	350.0	287.3	1.71
684	128.0	350.0	282.7	1.50

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