

PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ
FACULTAD DE CIENCIAS E INGENIERÍA



**Medición y comparación de la rugosidad en pavimentos de la
ciudad de Huánuco:
mediante Smartphone y un método tradicional**

Tesis para optar el Título de Ingeniero Civil, que presenta el bachiller:

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Lima, Febrero de 2016

ANEXO 1: COTAS OBTENIDAS CON MIRA Y NIVEL

Tabla a.1: Cotas recolectadas con mira y nivel en 320 metros de la carretera al aeropuerto en la ciudad de Huánuco utilizadas para graficar el perfil analizado

Punto (m)	VISTA ATRAS	ESTACION	VISTA DELANTE	COTA	DIFERENCIA DE COTAS	COTA DE REFERENCIA
0	0,666	1920,666		1920	0	1920
0,25		1920,666	0,64	1920,026	0,026	1920
0,5		1920,666	0,626	1920,04	0,04	1920
0,75		1920,666	0,6	1920,066	0,066	1920
1		1920,666	0,582	1920,084	0,084	1920
1,25		1920,666	0,566	1920,1	0,1	1920
1,5		1920,666	0,556	1920,11	0,11	1920
1,75		1920,666	0,545	1920,121	0,121	1920
2		1920,666	0,534	1920,132	0,132	1920
2,25		1920,666	0,519	1920,147	0,147	1920
2,5		1920,666	0,511	1920,155	0,155	1920
2,75		1920,666	0,498	1920,168	0,168	1920
3		1920,666	0,486	1920,18	0,18	1920
3,25		1920,666	0,478	1920,188	0,188	1920
3,5		1920,666	0,464	1920,202	0,202	1920
3,75		1920,666	0,454	1920,212	0,212	1920
4		1920,666	0,439	1920,227	0,227	1920
4,25		1920,666	0,427	1920,239	0,239	1920
4,5		1920,666	0,415	1920,251	0,251	1920
4,75		1920,666	0,407	1920,259	0,259	1920
5		1920,666	0,394	1920,272	0,272	1920
5,25		1920,666	0,385	1920,281	0,281	1920
5,5		1920,666	0,374	1920,292	0,292	1920
5,75		1920,666	0,365	1920,301	0,301	1920
6		1920,666	0,357	1920,309	0,309	1920
6,25		1920,666	0,345	1920,321	0,321	1920
6,5		1920,666	0,335	1920,331	0,331	1920
6,75		1920,666	0,324	1920,342	0,342	1920
7		1920,666	0,324	1920,342	0,342	1920
7,25		1920,666	0,316	1920,35	0,35	1920
7,5		1920,666	0,305	1920,361	0,361	1920
7,75		1920,666	0,296	1920,37	0,37	1920
8		1920,666	0,294	1920,372	0,372	1920
8,25		1920,666	0,284	1920,382	0,382	1920
8,5		1920,666	0,276	1920,39	0,39	1920
8,75		1920,666	0,27	1920,396	0,396	1920
9		1920,666	0,268	1920,398	0,398	1920
9,25		1920,666	0,266	1920,4	0,4	1920
9,5		1920,666	0,26	1920,406	0,406	1920
9,75		1920,666	0,254	1920,412	0,412	1920

10		1920,666	0,25	1920,416	0,416	1920
10,25		1920,666	0,245	1920,421	0,421	1920
10,5		1920,666	0,24	1920,426	0,426	1920
10,75		1920,666	0,239	1920,427	0,427	1920
11		1920,666	0,233	1920,433	0,433	1920
11,25		1920,666	0,232	1920,434	0,434	1920
11,5		1920,666	0,232	1920,434	0,434	1920
11,75		1920,666	0,228	1920,438	0,438	1920
12		1920,666	0,229	1920,437	0,437	1920
12,25		1920,666	0,228	1920,438	0,438	1920
12,5		1920,666	0,229	1920,437	0,437	1920
12,75		1920,666	0,227	1920,439	0,439	1920
13		1920,666	0,227	1920,439	0,439	1920
13,25		1920,666	0,228	1920,438	0,438	1920
13,5		1920,666	0,227	1920,439	0,439	1920
13,75		1920,666	0,23	1920,436	0,436	1920
14		1920,666	0,233	1920,433	0,433	1920
14,25		1920,666	0,237	1920,429	0,429	1920
14,5		1920,666	0,238	1920,428	0,428	1920
14,75		1920,666	0,239	1920,427	0,427	1920
15		1920,666	0,24	1920,426	0,426	1920
15,25		1920,666	0,244	1920,422	0,422	1920
15,5		1920,666	0,245	1920,421	0,421	1920
15,75		1920,666	0,247	1920,419	0,419	1920
16		1920,666	0,251	1920,415	0,415	1920
16,25		1920,666	0,253	1920,413	0,413	1920
16,5		1920,666	0,259	1920,407	0,407	1920
16,75		1920,666	0,26	1920,406	0,406	1920
17		1920,666	0,262	1920,404	0,404	1920
17,25		1920,666	0,265	1920,401	0,401	1920
17,5		1920,666	0,272	1920,394	0,394	1920
17,75		1920,666	0,274	1920,392	0,392	1920
18		1920,666	0,275	1920,391	0,391	1920
18,25		1920,666	0,28	1920,386	0,386	1920
18,5		1920,666	0,283	1920,383	0,383	1920
18,75		1920,666	0,283	1920,383	0,383	1920
19		1920,666	0,29	1920,376	0,376	1920
19,25		1920,666	0,292	1920,374	0,374	1920
19,5		1920,666	0,294	1920,372	0,372	1920
19,75		1920,666	0,298	1920,368	0,368	1920
20		1920,666	0,3	1920,366	0,366	1920
20,25		1920,666	0,305	1920,361	0,361	1920
20,5		1920,666	0,308	1920,358	0,358	1920
20,75		1920,666	0,31	1920,356	0,356	1920
21		1920,666	0,315	1920,351	0,351	1920

21,25		1920,666	0,317	1920,349	0,349	1920
21,5		1920,666	0,321	1920,345	0,345	1920
21,75		1920,666	0,325	1920,341	0,341	1920
22		1920,666	0,33	1920,336	0,336	1920
22,25		1920,666	0,333	1920,333	0,333	1920
22,5		1920,666	0,334	1920,332	0,332	1920
22,75		1920,666	0,34	1920,326	0,326	1920
23		1920,666	0,343	1920,323	0,323	1920
23,25		1920,666	0,344	1920,322	0,322	1920
23,5		1920,666	0,35	1920,316	0,316	1920
23,75		1920,666	0,355	1920,311	0,311	1920
24		1920,666	0,358	1920,308	0,308	1920
24,25		1920,666	0,362	1920,304	0,304	1920
24,5		1920,666	0,366	1920,3	0,3	1920
24,75		1920,666	0,366	1920,3	0,3	1920
25		1920,666	0,37	1920,296	0,296	1920
25,25		1920,666	0,37	1920,296	0,296	1920
25,5		1920,666	0,376	1920,29	0,29	1920
25,75		1920,666	0,38	1920,286	0,286	1920
26		1920,666	0,383	1920,283	0,283	1920
26,25		1920,666	0,385	1920,281	0,281	1920
26,5		1920,666	0,392	1920,274	0,274	1920
26,75		1920,666	0,395	1920,271	0,271	1920
27		1920,666	0,397	1920,269	0,269	1920
27,25		1920,666	0,4	1920,266	0,266	1920
27,5		1920,666	0,406	1920,26	0,26	1920
27,75		1920,666	0,407	1920,259	0,259	1920
28		1920,666	0,412	1920,254	0,254	1920
28,25		1920,666	0,416	1920,25	0,25	1920
28,5		1920,666	0,42	1920,246	0,246	1920
28,75		1920,666	0,425	1920,241	0,241	1920
29		1920,666	0,427	1920,239	0,239	1920
29,25		1920,666	0,434	1920,232	0,232	1920
29,5		1920,666	0,439	1920,227	0,227	1920
29,75		1920,666	0,441	1920,225	0,225	1920
30		1920,666	0,445	1920,221	0,221	1920
30,25		1920,666	0,447	1920,219	0,219	1920
30,5		1920,666	0,454	1920,212	0,212	1920
30,75		1920,666	0,456	1920,21	0,21	1920
31		1920,666	0,463	1920,203	0,203	1920
31,25		1920,666	0,468	1920,198	0,198	1920
31,5		1920,666	0,473	1920,193	0,193	1920
31,75		1920,666	0,476	1920,19	0,19	1920
32		1920,666	0,48	1920,186	0,186	1920
32,25		1920,666	0,484	1920,182	0,182	1920

32,5		1920,666	0,486	1920,18	0,18	1920
32,75		1920,666	0,49	1920,176	0,176	1920
33		1920,666	0,496	1920,17	0,17	1920
33,25		1920,666	0,5	1920,166	0,166	1920
33,5		1920,666	0,505	1920,161	0,161	1920
33,75		1920,666	0,51	1920,156	0,156	1920
34		1920,666	0,515	1920,151	0,151	1920
34,25		1920,666	0,52	1920,146	0,146	1920
34,5		1920,666	0,522	1920,144	0,144	1920
34,75		1920,666	0,526	1920,14	0,14	1920
35		1920,666	0,529	1920,137	0,137	1920
35,25		1920,666	0,535	1920,131	0,131	1920
35,5		1920,666	0,539	1920,127	0,127	1920
35,75		1920,666	0,54	1920,126	0,126	1920
36		1920,666	0,545	1920,121	0,121	1920
36,25		1920,666	0,55	1920,116	0,116	1920
36,5		1920,666	0,555	1920,111	0,111	1920
36,75		1920,666	0,56	1920,106	0,106	1920
37		1920,666	0,566	1920,1	0,1	1920
37,25		1920,666	0,57	1920,096	0,096	1920
37,5		1920,666	0,575	1920,091	0,091	1920
37,75		1920,666	0,585	1920,081	0,081	1920
38		1920,666	0,586	1920,08	0,08	1920
38,25		1920,666	0,59	1920,076	0,076	1920
38,5		1920,666	0,595	1920,071	0,071	1920
38,75		1920,666	0,6	1920,066	0,066	1920
39		1920,666	0,666	1920	0	1920
39,25		1920,666	0,612	1920,054	0,054	1920
39,5		1920,666	0,62	1920,046	0,046	1920
39,75		1920,666	0,625	1920,041	0,041	1920
40		1920,666	0,63	1920,036	0,036	1920
40,25		1920,666	0,635	1920,031	0,031	1920
40,5		1920,666	0,64	1920,026	0,026	1920
40,75		1920,666	0,644	1920,022	0,022	1920
41		1920,666	0,65	1920,016	0,016	1920
41,25		1920,666	0,655	1920,011	0,011	1920
41,5		1920,666	0,66	1920,006	0,006	1920
41,75		1920,666	0,666	1920	0	1920
42		1920,666	0,674	1919,992	-0,008	1920
42,25		1920,666	0,676	1919,99	-0,01	1920
42,5		1920,666	0,683	1919,983	-0,017	1920
42,75		1920,666	0,69	1919,976	-0,024	1920
43		1920,666	0,695	1919,971	-0,029	1920
43,25		1920,666	0,7	1919,966	-0,034	1920
43,5		1920,666	0,704	1919,962	-0,038	1920

43,75		1920,666	0,709	1919,957	-0,043	1920
44		1920,666	0,714	1919,952	-0,048	1920
44,25		1920,666	0,72	1919,946	-0,054	1920
44,5		1920,666	0,725	1919,941	-0,059	1920
44,75		1920,666	0,73	1919,936	-0,064	1920
45		1920,666	0,737	1919,929	-0,071	1920
45,25		1920,666	0,743	1919,923	-0,077	1920
45,5		1920,666	0,749	1919,917	-0,083	1920
45,75		1920,666	0,755	1919,911	-0,089	1920
46		1920,666	0,76	1919,906	-0,094	1920
46,25		1920,666	0,769	1919,897	-0,103	1920
46,5		1920,666	0,772	1919,894	-0,106	1920
46,75		1920,666	0,782	1919,884	-0,116	1920
47		1920,666	0,786	1919,88	-0,12	1920
47,25		1920,666	0,792	1919,874	-0,126	1920
47,5		1920,666	0,8	1919,866	-0,134	1920
47,75		1920,666	0,806	1919,86	-0,14	1920
48		1920,666	0,81	1919,856	-0,144	1920
48,25		1920,666	0,817	1919,849	-0,151	1920
48,5		1920,666	0,826	1919,84	-0,16	1920
48,75		1920,666	0,834	1919,832	-0,168	1920
49		1920,666	0,84	1919,826	-0,174	1920
49,25		1920,666	0,846	1919,82	-0,18	1920
49,5		1920,666	0,852	1919,814	-0,186	1920
49,75		1920,666	0,862	1919,804	-0,196	1920
50		1920,666	0,867	1919,799	-0,201	1920
50,25		1920,666	0,879	1919,787	-0,213	1920
50,5		1920,666	0,887	1919,779	-0,221	1920
50,75		1920,666	0,89	1919,776	-0,224	1920
51		1920,666	0,9	1919,766	-0,234	1920
51,25		1920,666	0,909	1919,757	-0,243	1920
51,5		1920,666	0,916	1919,75	-0,25	1920
51,75		1920,666	0,922	1919,744	-0,256	1920
52		1920,666	0,93	1919,736	-0,264	1920
52,25		1920,666	0,936	1919,73	-0,27	1920
52,5		1920,666	0,946	1919,72	-0,28	1920
52,75		1920,666	0,949	1919,717	-0,283	1920
53		1920,666	0,959	1919,707	-0,293	1920
53,25		1920,666	0,965	1919,701	-0,299	1920
53,5		1920,666	0,97	1919,696	-0,304	1920
53,75		1920,666	0,98	1919,686	-0,314	1920
54		1920,666	0,989	1919,677	-0,323	1920
54,25		1920,666	0,996	1919,67	-0,33	1920
54,5		1920,666	1	1919,666	-0,334	1920
54,75		1920,666	1,006	1919,66	-0,34	1920

55		1920,666	1,014	1919,652	-0,348	1920
55,25		1920,666	1,02	1919,646	-0,354	1920
55,5		1920,666	1,026	1919,64	-0,36	1920
55,75		1920,666	1,035	1919,631	-0,369	1920
56		1920,666	1,042	1919,624	-0,376	1920
56,25		1920,666	1,05	1919,616	-0,384	1920
56,5		1920,666	1,055	1919,611	-0,389	1920
56,75		1920,666	1,066	1919,6	-0,4	1920
57		1920,666	1,072	1919,594	-0,406	1920
57,25		1920,666	1,079	1919,587	-0,413	1920
57,5		1920,666	1,089	1919,577	-0,423	1920
57,75		1920,666	1,095	1919,571	-0,429	1920
58		1920,666	1,099	1919,567	-0,433	1920
58,25		1920,666	1,11	1919,556	-0,444	1920
58,5		1920,666	1,12	1919,546	-0,454	1920
58,75		1920,666	1,13	1919,536	-0,464	1920
59		1920,666	1,139	1919,527	-0,473	1920
59,25		1920,666	1,141	1919,525	-0,475	1920
59,5		1920,666	1,151	1919,515	-0,485	1920
59,75		1920,666	1,159	1919,507	-0,493	1920
60		1920,666	1,166	1919,5	-0,5	1920
60,25		1920,666	1,174	1919,492	-0,508	1920
60,5		1920,666	1,182	1919,484	-0,516	1920
60,75		1920,666	1,189	1919,477	-0,523	1920
61		1920,666	1,2	1919,466	-0,534	1920
61,25		1920,666	1,203	1919,463	-0,537	1920
61,5		1920,666	1,21	1919,456	-0,544	1920
61,75		1920,666	1,22	1919,446	-0,554	1920
62		1920,666	1,229	1919,437	-0,563	1920
62,25		1920,666	1,235	1919,431	-0,569	1920
62,5		1920,666	1,241	1919,425	-0,575	1920
62,75		1920,666	1,251	1919,415	-0,585	1920
63		1920,666	1,259	1919,407	-0,593	1920
63,25		1920,666	1,265	1919,401	-0,599	1920
63,5		1920,666	1,276	1919,39	-0,61	1920
63,75		1920,666	1,284	1919,382	-0,618	1920
64		1920,666	1,29	1919,376	-0,624	1920
64,25		1920,666	1,301	1919,365	-0,635	1920
64,5		1920,666	1,31	1919,356	-0,644	1920
64,75		1920,666	1,319	1919,347	-0,653	1920
65		1920,666	1,326	1919,34	-0,66	1920
65,25		1920,666	1,333	1919,333	-0,667	1920
65,5		1920,666	1,346	1919,32	-0,68	1920
65,75		1920,666	1,355	1919,311	-0,689	1920
66		1920,666	1,362	1919,304	-0,696	1920

66,25		1920,666	1,369	1919,297	-0,703	1920
66,5		1920,666	1,38	1919,286	-0,714	1920
66,75		1920,666	1,386	1919,28	-0,72	1920
67		1920,666	1,391	1919,275	-0,725	1920
67,25		1920,666	1,396	1919,27	-0,73	1920
67,5		1920,666	1,404	1919,262	-0,738	1920
67,75		1920,666	1,41	1919,256	-0,744	1920
68		1920,666	1,415	1919,251	-0,749	1920
68,25		1920,666	1,423	1919,243	-0,757	1920
68,5		1920,666	1,432	1919,234	-0,766	1920
68,75		1920,666	1,441	1919,225	-0,775	1920
69		1920,666	1,449	1919,217	-0,783	1920
69,25		1920,666	1,456	1919,21	-0,79	1920
69,5		1920,666	1,465	1919,201	-0,799	1920
69,75		1920,666	1,472	1919,194	-0,806	1920
70		1920,666	1,48	1919,186	-0,814	1920
70,25		1920,666	1,487	1919,179	-0,821	1920
70,5		1920,666	1,496	1919,17	-0,83	1920
70,75		1920,666	1,505	1919,161	-0,839	1920
71		1920,666	1,514	1919,152	-0,848	1920
71,25		1920,666	1,522	1919,144	-0,856	1920
71,5		1920,666	1,532	1919,134	-0,866	1920
71,75		1920,666	1,538	1919,128	-0,872	1920
72		1920,666	1,545	1919,121	-0,879	1920
72,25		1920,666	1,554	1919,112	-0,888	1920
72,5		1920,666	1,564	1919,102	-0,898	1920
72,75		1920,666	1,57	1919,096	-0,904	1920
73		1920,666	1,58	1919,086	-0,914	1920
73,25		1920,666	1,59	1919,076	-0,924	1920
73,5		1920,666	1,599	1919,067	-0,933	1920
73,75		1920,666	1,606	1919,06	-0,94	1920
74		1920,666	1,615	1919,051	-0,949	1920
74,25		1920,666	1,624	1919,042	-0,958	1920
74,5		1920,666	1,626	1919,04	-0,96	1920
74,75		1920,666	1,638	1919,028	-0,972	1920
75		1920,666	1,645	1919,021	-0,979	1920
75,25		1920,666	1,654	1919,012	-0,988	1920
75,5		1920,666	1,664	1919,002	-0,998	1920
75,75		1920,666	1,672	1918,994	-1,006	1920
76		1920,666	1,678	1918,988	-1,012	1920
76,25		1920,666	1,688	1918,978	-1,022	1920
76,5		1920,666	1,696	1918,97	-1,03	1920
76,75		1920,666	1,701	1918,965	-1,035	1920
77		1920,666	1,711	1918,955	-1,045	1920
77,25		1920,666	1,719	1918,947	-1,053	1920

77,5		1920,666	1,726	1918,94	-1,06	1920
77,75		1920,666	1,734	1918,932	-1,068	1920
78		1920,666	1,739	1918,927	-1,073	1920
78,25		1920,666	1,75	1918,916	-1,084	1920
78,5		1920,666	1,759	1918,907	-1,093	1920
78,75		1920,666	1,764	1918,902	-1,098	1920
79		1920,666	1,771	1918,895	-1,105	1920
79,25		1920,666	1,779	1918,887	-1,113	1920
79,5		1920,666	1,787	1918,879	-1,121	1920
79,75		1920,666	1,791	1918,875	-1,125	1920
80		1920,666	1,799	1918,867	-1,133	1920
80,25		1920,666	1,809	1918,857	-1,143	1920
80,5		1920,666	1,818	1918,848	-1,152	1920
80,75		1920,666	1,825	1918,841	-1,159	1920
81		1920,666	1,833	1918,833	-1,167	1920
81,25		1920,666	1,84	1918,826	-1,174	1920
81,5		1920,666	1,846	1918,82	-1,18	1920
81,75		1920,666	1,855	1918,811	-1,189	1920
82		1920,666	1,862	1918,804	-1,196	1920
82,25		1920,666	1,872	1918,794	-1,206	1920
82,5		1920,666	1,876	1918,79	-1,21	1920
82,75		1920,666	1,885	1918,781	-1,219	1920
83		1920,666	1,894	1918,772	-1,228	1920
83,25		1920,666	1,901	1918,765	-1,235	1920
83,5		1920,666	1,91	1918,756	-1,244	1920
83,75		1920,666	1,915	1918,751	-1,249	1920
84		1920,666	1,924	1918,742	-1,258	1920
84,25		1920,666	1,933	1918,733	-1,267	1920
84,5		1920,666	1,939	1918,727	-1,273	1920
84,75		1920,666	1,945	1918,721	-1,279	1920
85		1920,666	1,955	1918,711	-1,289	1920
85,25		1920,666	1,964	1918,702	-1,298	1920
85,5		1920,666	1,973	1918,693	-1,307	1920
85,75		1920,666	1,98	1918,686	-1,314	1920
86		1920,666	1,989	1918,677	-1,323	1920
86,25		1920,666	1,996	1918,67	-1,33	1920
86,5		1920,666	2,011	1918,655	-1,345	1920
86,75		1920,666	2,019	1918,647	-1,353	1920
87		1920,666	2,026	1918,64	-1,36	1920
87,25		1920,666	2,031	1918,635	-1,365	1920
87,5		1920,666	2,039	1918,627	-1,373	1920
87,75		1920,666	2,044	1918,622	-1,378	1920
88		1920,666	2,052	1918,614	-1,386	1920
88,25		1920,666	2,061	1918,605	-1,395	1920
88,5		1920,666	2,069	1918,597	-1,403	1920

88,75		1920,666	2,08	1918,586	-1,414	1920
89		1920,666	2,086	1918,58	-1,42	1920
89,25		1920,666	2,094	1918,572	-1,428	1920
89,5		1920,666	2,101	1918,565	-1,435	1920
89,75		1920,666	2,114	1918,552	-1,448	1920
90		1920,666	2,123	1918,543	-1,457	1920
90,25		1920,666	2,125	1918,541	-1,459	1920
90,5		1920,666	2,134	1918,532	-1,468	1920
90,75		1920,666	2,143	1918,523	-1,477	1920
91		1920,666	2,152	1918,514	-1,486	1920
91,25		1920,666	2,16	1918,506	-1,494	1920
91,5		1920,666	2,169	1918,497	-1,503	1920
91,75		1920,666	2,174	1918,492	-1,508	1920
92		1920,666	2,183	1918,483	-1,517	1920
92,25		1920,666	2,196	1918,47	-1,53	1920
92,5		1920,666	2,201	1918,465	-1,535	1920
92,75		1920,666	2,21	1918,456	-1,544	1920
93		1920,666	2,219	1918,447	-1,553	1920
93,25		1920,666	2,226	1918,44	-1,56	1920
93,5		1920,666	2,235	1918,431	-1,569	1920
93,75		1920,666	2,242	1918,424	-1,576	1920
94	0,266	1918,676	2,256	1918,41	-1,59	1920
94,25		1918,676	0,274	1918,402	-1,598	1920
94,5		1918,676	0,284	1918,392	-1,608	1920
94,75		1918,676	0,293	1918,383	-1,617	1920
95		1918,676	0,303	1918,373	-1,627	1920
95,25		1918,676	0,312	1918,364	-1,636	1920
95,5		1918,676	0,319	1918,357	-1,643	1920
95,75		1918,676	0,329	1918,347	-1,653	1920
96		1918,676	0,338	1918,338	-1,662	1920
96,25		1918,676	0,347	1918,329	-1,671	1920
96,5		1918,676	0,354	1918,322	-1,678	1920
96,75		1918,676	0,363	1918,313	-1,687	1920
97		1918,676	0,374	1918,302	-1,698	1920
97,25		1918,676	0,38	1918,296	-1,704	1920
97,5		1918,676	0,39	1918,286	-1,714	1920
97,75		1918,676	0,399	1918,277	-1,723	1920
98		1918,676	0,408	1918,268	-1,732	1920
98,25		1918,676	0,417	1918,259	-1,741	1920
98,5		1918,676	0,426	1918,25	-1,75	1920
98,75		1918,676	0,434	1918,242	-1,758	1920
99		1918,676	0,441	1918,235	-1,765	1920
99,25		1918,676	0,452	1918,224	-1,776	1920
99,5		1918,676	0,46	1918,216	-1,784	1920
99,75		1918,676	0,471	1918,205	-1,795	1920

100		1918,676	0,476	1918,2	-1,8	1920
100,25		1918,676	0,485	1918,191	-1,809	1920
100,5		1918,676	0,493	1918,183	-1,817	1920
100,75		1918,676	0,5	1918,176	-1,824	1920
101		1918,676	0,511	1918,165	-1,835	1920
101,25		1918,676	0,52	1918,156	-1,844	1920
101,5		1918,676	0,527	1918,149	-1,851	1920
101,75		1918,676	0,535	1918,141	-1,859	1920
102		1918,676	0,544	1918,132	-1,868	1920
102,25		1918,676	0,556	1918,12	-1,88	1920
102,5		1918,676	0,564	1918,112	-1,888	1920
102,75		1918,676	0,574	1918,102	-1,898	1920
103		1918,676	0,583	1918,093	-1,907	1920
103,25		1918,676	0,592	1918,084	-1,916	1920
103,5		1918,676	0,601	1918,075	-1,925	1920
103,75		1918,676	0,609	1918,067	-1,933	1920
104		1918,676	0,617	1918,059	-1,941	1920
104,25		1918,676	0,627	1918,049	-1,951	1920
104,5		1918,676	0,635	1918,041	-1,959	1920
104,75		1918,676	0,646	1918,03	-1,97	1920
105		1918,676	0,654	1918,022	-1,978	1920
105,25		1918,676	0,66	1918,016	-1,984	1920
105,5		1918,676	0,669	1918,007	-1,993	1920
105,75		1918,676	0,679	1917,997	-2,003	1920
106		1918,676	0,687	1917,989	-2,011	1920
106,25		1918,676	0,695	1917,981	-2,019	1920
106,5		1918,676	0,704	1917,972	-2,028	1920
106,75		1918,676	0,712	1917,964	-2,036	1920
107		1918,676	0,721	1917,955	-2,045	1920
107,25		1918,676	0,731	1917,945	-2,055	1920
107,5		1918,676	0,74	1917,936	-2,064	1920
107,75		1918,676	0,749	1917,927	-2,073	1920
108		1918,676	0,758	1917,918	-2,082	1920
108,25		1918,676	0,767	1917,909	-2,091	1920
108,5		1918,676	0,776	1917,9	-2,1	1920
108,75		1918,676	0,784	1917,892	-2,108	1920
109		1918,676	0,795	1917,881	-2,119	1920
109,25		1918,676	0,804	1917,872	-2,128	1920
109,5		1918,676	0,811	1917,865	-2,135	1920
109,75		1918,676	0,822	1917,854	-2,146	1920
110		1918,676	0,83	1917,846	-2,154	1920
110,25		1918,676	0,839	1917,837	-2,163	1920
110,5		1918,676	0,846	1917,83	-2,17	1920
110,75		1918,676	0,856	1917,82	-2,18	1920
111		1918,676	0,865	1917,811	-2,189	1920

111,25		1918,676	0,874	1917,802	-2,198	1920
111,5		1918,676	0,881	1917,795	-2,205	1920
111,75		1918,676	0,89	1917,786	-2,214	1920
112		1918,676	0,899	1917,777	-2,223	1920
112,25		1918,676	0,906	1917,77	-2,23	1920
112,5		1918,676	0,914	1917,762	-2,238	1920
112,75		1918,676	0,923	1917,753	-2,247	1920
113		1918,676	0,933	1917,743	-2,257	1920
113,25		1918,676	0,941	1917,735	-2,265	1920
113,5		1918,676	0,946	1917,73	-2,27	1920
113,75		1918,676	0,954	1917,722	-2,278	1920
114		1918,676	0,962	1917,714	-2,286	1920
114,25		1918,676	0,97	1917,706	-2,294	1920
114,5		1918,676	0,978	1917,698	-2,302	1920
114,75		1918,676	0,986	1917,69	-2,31	1920
115		1918,676	0,992	1917,684	-2,316	1920
115,25		1918,676	1,001	1917,675	-2,325	1920
115,5		1918,676	1	1917,676	-2,324	1920
115,75		1918,676	1,016	1917,66	-2,34	1920
116		1918,676	1,021	1917,655	-2,345	1920
116,25		1918,676	1,03	1917,646	-2,354	1920
116,5		1918,676	1,036	1917,64	-2,36	1920
116,75		1918,676	1,041	1917,635	-2,365	1920
117		1918,676	1,047	1917,629	-2,371	1920
117,25		1918,676	1,053	1917,623	-2,377	1920
117,5		1918,676	1,062	1917,614	-2,386	1920
117,75		1918,676	1,07	1917,606	-2,394	1920
118		1918,676	1,075	1917,601	-2,399	1920
118,25		1918,676	1,079	1917,597	-2,403	1920
118,5		1918,676	1,084	1917,592	-2,408	1920
118,75		1918,676	1,092	1917,584	-2,416	1920
119		1918,676	1,1	1917,576	-2,424	1920
119,25		1918,676	1,109	1917,567	-2,433	1920
119,5		1918,676	1,114	1917,562	-2,438	1920
119,75		1918,676	1,12	1917,556	-2,444	1920
120		1918,676	1,127	1917,549	-2,451	1920
120,25		1918,676	1,136	1917,54	-2,46	1920
120,5		1918,676	1,144	1917,532	-2,468	1920
120,75		1918,676	1,15	1917,526	-2,474	1920
121		1918,676	1,159	1917,517	-2,483	1920
121,25		1918,676	1,165	1917,511	-2,489	1920
121,5		1918,676	1,172	1917,504	-2,496	1920
121,75		1918,676	1,18	1917,496	-2,504	1920
122		1918,676	1,186	1917,49	-2,51	1920
122,25		1918,676	1,19	1917,486	-2,514	1920

122,5		1918,676	1,199	1917,477	-2,523	1920
122,75		1918,676	1,205	1917,471	-2,529	1920
123		1918,676	1,212	1917,464	-2,536	1920
123,25		1918,676	1,22	1917,456	-2,544	1920
123,5		1918,676	1,227	1917,449	-2,551	1920
123,75		1918,676	1,232	1917,444	-2,556	1920
124		1918,676	1,241	1917,435	-2,565	1920
124,25		1918,676	1,25	1917,426	-2,574	1920
124,5		1918,676	1,257	1917,419	-2,581	1920
124,75		1918,676	1,267	1917,409	-2,591	1920
125		1918,676	1,272	1917,404	-2,596	1920
125,25		1918,676	1,28	1917,396	-2,604	1920
125,5		1918,676	1,289	1917,387	-2,613	1920
125,75		1918,676	1,297	1917,379	-2,621	1920
126		1918,676	1,302	1917,374	-2,626	1920
126,25		1918,676	1,31	1917,366	-2,634	1920
126,5		1918,676	1,318	1917,358	-2,642	1920
126,75		1918,676	1,326	1917,35	-2,65	1920
127		1918,676	1,335	1917,341	-2,659	1920
127,25		1918,676	1,345	1917,331	-2,669	1920
127,5		1918,676	1,352	1917,324	-2,676	1920
127,75		1918,676	1,362	1917,314	-2,686	1920
128		1918,676	1,37	1917,306	-2,694	1920
128,25		1918,676	1,378	1917,298	-2,702	1920
128,5		1918,676	1,386	1917,29	-2,71	1920
128,75		1918,676	1,395	1917,281	-2,719	1920
129		1918,676	1,402	1917,274	-2,726	1920
129,25		1918,676	1,411	1917,265	-2,735	1920
129,5		1918,676	1,421	1917,255	-2,745	1920
129,75		1918,676	1,428	1917,248	-2,752	1920
130		1918,676	1,438	1917,238	-2,762	1920
130,25		1918,676	1,449	1917,227	-2,773	1920
130,5		1918,676	1,456	1917,22	-2,78	1920
130,75		1918,676	1,468	1917,208	-2,792	1920
131		1918,676	1,475	1917,201	-2,799	1920
131,25		1918,676	1,48	1917,196	-2,804	1920
131,5		1918,676	1,494	1917,182	-2,818	1920
131,75		1918,676	1,502	1917,174	-2,826	1920
132		1918,676	1,512	1917,164	-2,836	1920
132,25		1918,676	1,521	1917,155	-2,845	1920
132,5		1918,676	1,53	1917,146	-2,854	1920
132,75		1918,676	1,54	1917,136	-2,864	1920
133		1918,676	1,55	1917,126	-2,874	1920
133,25		1918,676	1,561	1917,115	-2,885	1920
133,5		1918,676	1,572	1917,104	-2,896	1920

133,75		1918,676	1,582	1917,094	-2,906	1920
134		1918,676	1,592	1917,084	-2,916	1920
134,25		1918,676	1,601	1917,075	-2,925	1920
134,5		1918,676	1,612	1917,064	-2,936	1920
134,75		1918,676	1,621	1917,055	-2,945	1920
135		1918,676	1,629	1917,047	-2,953	1920
135,25		1918,676	1,638	1917,038	-2,962	1920
135,5		1918,676	1,649	1917,027	-2,973	1920
135,75		1918,676	1,658	1917,018	-2,982	1920
136		1918,676	1,668	1917,008	-2,992	1920
136,25		1918,676	1,68	1916,996	-3,004	1920
136,5		1918,676	1,691	1916,985	-3,015	1920
136,75		1918,676	1,7	1916,976	-3,024	1920
137		1918,676	1,709	1916,967	-3,033	1920
137,25		1918,676	1,721	1916,955	-3,045	1920
137,5		1918,676	1,73	1916,946	-3,054	1920
137,75		1918,676	1,741	1916,935	-3,065	1920
138		1918,676	1,749	1916,927	-3,073	1920
138,25		1918,676	1,76	1916,916	-3,084	1920
138,5		1918,676	1,77	1916,906	-3,094	1920
138,75		1918,676	1,78	1916,896	-3,104	1920
139		1918,676	1,789	1916,887	-3,113	1920
139,25		1918,676	1,798	1916,878	-3,122	1920
139,5		1918,676	1,808	1916,868	-3,132	1920
139,75		1918,676	1,819	1916,857	-3,143	1920
140		1918,676	1,829	1916,847	-3,153	1920
140,25		1918,676	1,839	1916,837	-3,163	1920
140,5		1918,676	1,85	1916,826	-3,174	1920
140,75		1918,676	1,86	1916,816	-3,184	1920
141		1918,676	1,87	1916,806	-3,194	1920
141,25		1918,676	1,881	1916,795	-3,205	1920
141,5		1918,676	1,891	1916,785	-3,215	1920
141,75		1918,676	1,902	1916,774	-3,226	1920
142		1918,676	1,911	1916,765	-3,235	1920
142,25		1918,676	1,919	1916,757	-3,243	1920
142,5		1918,676	1,929	1916,747	-3,253	1920
142,75		1918,676	1,939	1916,737	-3,263	1920
143		1918,676	1,95	1916,726	-3,274	1920
143,25		1918,676	1,959	1916,717	-3,283	1920
143,5		1918,676	1,968	1916,708	-3,292	1920
143,75		1918,676	1,975	1916,701	-3,299	1920
144		1918,676	1,983	1916,693	-3,307	1920
144,25		1918,676	1,99	1916,686	-3,314	1920
144,5		1918,676	2	1916,676	-3,324	1920
144,75		1918,676	2,011	1916,665	-3,335	1920

145		1918,676	2,02	1916,656	-3,344	1920
145,25		1918,676	2,03	1916,646	-3,354	1920
145,5		1918,676	2,039	1916,637	-3,363	1920
145,75		1918,676	2,046	1916,63	-3,37	1920
146		1918,676	2,055	1916,621	-3,379	1920
146,25		1918,676	2,066	1916,61	-3,39	1920
146,5		1918,676	2,073	1916,603	-3,397	1920
146,75		1918,676	2,086	1916,59	-3,41	1920
147		1918,676	2,09	1916,586	-3,414	1920
147,25		1918,676	2,101	1916,575	-3,425	1920
147,5		1918,676	2,109	1916,567	-3,433	1920
147,75		1918,676	2,119	1916,557	-3,443	1920
148		1918,676	2,128	1916,548	-3,452	1920
148,25		1918,676	2,139	1916,537	-3,463	1920
148,5		1918,676	2,149	1916,527	-3,473	1920
148,75		1918,676	2,158	1916,518	-3,482	1920
149		1918,676	2,168	1916,508	-3,492	1920
149,25		1918,676	2,177	1916,499	-3,501	1920
149,5		1918,676	2,182	1916,494	-3,506	1920
149,75		1918,676	2,193	1916,483	-3,517	1920
150	0,498	1916,973	2,201	1916,475	-3,525	1920
150,25		1916,973	0,504	1916,469	-3,531	1920
150,5		1916,973	0,513	1916,46	-3,54	1920
150,75		1916,973	0,522	1916,451	-3,549	1920
151		1916,973	0,531	1916,442	-3,558	1920
151,25		1916,973	0,537	1916,436	-3,564	1920
151,5		1916,973	0,545	1916,428	-3,572	1920
151,75		1916,973	0,554	1916,419	-3,581	1920
152		1916,973	0,56	1916,413	-3,587	1920
152,25		1916,973	0,566	1916,407	-3,593	1920
152,5		1916,973	0,574	1916,399	-3,601	1920
152,75		1916,973	0,584	1916,389	-3,611	1920
153		1916,973	0,591	1916,382	-3,618	1920
153,25		1916,973	0,6	1916,373	-3,627	1920
153,5		1916,973	0,607	1916,366	-3,634	1920
153,75		1916,973	0,61	1916,363	-3,637	1920
154		1916,973	0,62	1916,353	-3,647	1920
154,25		1916,973	0,627	1916,346	-3,654	1920
154,5		1916,973	0,634	1916,339	-3,661	1920
154,75		1916,973	0,644	1916,329	-3,671	1920
155		1916,973	0,648	1916,325	-3,675	1920
155,25		1916,973	0,657	1916,316	-3,684	1920
155,5		1916,973	0,664	1916,309	-3,691	1920
155,75		1916,973	0,672	1916,301	-3,699	1920
156		1916,973	0,681	1916,292	-3,708	1920

156,25		1916,973	0,69	1916,283	-3,717	1920
156,5		1916,973	0,697	1916,276	-3,724	1920
156,75		1916,973	0,705	1916,268	-3,732	1920
157		1916,973	0,712	1916,261	-3,739	1920
157,25		1916,973	0,72	1916,253	-3,747	1920
157,5		1916,973	0,728	1916,245	-3,755	1920
157,75		1916,973	0,735	1916,238	-3,762	1920
158		1916,973	0,742	1916,231	-3,769	1920
158,25		1916,973	0,75	1916,223	-3,777	1920
158,5		1916,973	0,758	1916,215	-3,785	1920
158,75		1916,973	0,765	1916,208	-3,792	1920
159		1916,973	0,772	1916,201	-3,799	1920
159,25		1916,973	0,78	1916,193	-3,807	1920
159,5		1916,973	0,787	1916,186	-3,814	1920
159,75		1916,973	0,797	1916,176	-3,824	1920
160		1916,973	0,803	1916,17	-3,83	1920
160,25		1916,973	0,81	1916,163	-3,837	1920
160,5		1916,973	0,82	1916,153	-3,847	1920
160,75		1916,973	0,827	1916,146	-3,854	1920
161		1916,973	0,834	1916,139	-3,861	1920
161,25		1916,973	0,841	1916,132	-3,868	1920
161,5		1916,973	0,851	1916,122	-3,878	1920
161,75		1916,973	0,858	1916,115	-3,885	1920
162		1916,973	0,864	1916,109	-3,891	1920
162,25		1916,973	0,87	1916,103	-3,897	1920
162,5		1916,973	0,876	1916,097	-3,903	1920
162,75		1916,973	0,886	1916,087	-3,913	1920
163		1916,973	0,891	1916,082	-3,918	1920
163,25		1916,973	0,9	1916,073	-3,927	1920
163,5		1916,973	0,907	1916,066	-3,934	1920
163,75		1916,973	0,912	1916,061	-3,939	1920
164		1916,973	0,919	1916,054	-3,946	1920
164,25		1916,973	0,926	1916,047	-3,953	1920
164,5		1916,973	0,931	1916,042	-3,958	1920
164,75		1916,973	0,94	1916,033	-3,967	1920
165		1916,973	0,948	1916,025	-3,975	1920
165,25		1916,973	0,956	1916,017	-3,983	1920
165,5		1916,973	0,965	1916,008	-3,992	1920
165,75		1916,973	0,974	1915,999	-4,001	1920
166		1916,973	0,98	1915,993	-4,007	1920
166,25		1916,973	0,985	1915,988	-4,012	1920
166,5		1916,973	0,99	1915,983	-4,017	1920
166,75		1916,973	1	1915,973	-4,027	1920
167		1916,973	1,007	1915,966	-4,034	1920
167,25		1916,973	1,015	1915,958	-4,042	1920

167,5		1916,973	1,022	1915,951	-4,049	1920
167,75		1916,973	1,035	1915,938	-4,062	1920
168		1916,973	1,043	1915,93	-4,07	1920
168,25		1916,973	1,052	1915,921	-4,079	1920
168,5		1916,973	1,058	1915,915	-4,085	1920
168,75		1916,973	1,064	1915,909	-4,091	1920
169		1916,973	1,075	1915,898	-4,102	1920
169,25		1916,973	1,08	1915,893	-4,107	1920
169,5		1916,973	1,09	1915,883	-4,117	1920
169,75		1916,973	1,098	1915,875	-4,125	1920
170		1916,973	1,108	1915,865	-4,135	1920
170,25		1916,973	1,116	1915,857	-4,143	1920
170,5		1916,973	1,121	1915,852	-4,148	1920
170,75		1916,973	1,132	1915,841	-4,159	1920
171		1916,973	1,139	1915,834	-4,166	1920
171,25		1916,973	1,149	1915,824	-4,176	1920
171,5		1916,973	1,155	1915,818	-4,182	1920
171,75		1916,973	1,165	1915,808	-4,192	1920
172		1916,973	1,173	1915,8	-4,2	1920
172,25		1916,973	1,18	1915,793	-4,207	1920
172,5		1916,973	1,186	1915,787	-4,213	1920
172,75		1916,973	1,194	1915,779	-4,221	1920
173		1916,973	1,2	1915,773	-4,227	1920
173,25		1916,973	1,21	1915,763	-4,237	1920
173,5		1916,973	1,217	1915,756	-4,244	1920
173,75		1916,973	1,221	1915,752	-4,248	1920
174		1916,973	1,23	1915,743	-4,257	1920
174,25		1916,973	1,237	1915,736	-4,264	1920
174,5		1916,973	1,246	1915,727	-4,273	1920
174,75		1916,973	1,252	1915,721	-4,279	1920
175		1916,973	1,26	1915,713	-4,287	1920
175,25		1916,973	1,268	1915,705	-4,295	1920
175,5		1916,973	1,273	1915,7	-4,3	1920
175,75		1916,973	1,285	1915,688	-4,312	1920
176		1916,973	1,292	1915,681	-4,319	1920
176,25		1916,973	1,299	1915,674	-4,326	1920
176,5		1916,973	1,309	1915,664	-4,336	1920
176,75		1916,973	1,315	1915,658	-4,342	1920
177		1916,973	1,324	1915,649	-4,351	1920
177,25		1916,973	1,33	1915,643	-4,357	1920
177,5		1916,973	1,34	1915,633	-4,367	1920
177,75		1916,973	1,348	1915,625	-4,375	1920
178		1916,973	1,355	1915,618	-4,382	1920
178,25		1916,973	1,364	1915,609	-4,391	1920
178,5		1916,973	1,378	1915,595	-4,405	1920

178,75		1916,973	1,377	1915,596	-4,404	1920
179		1916,973	1,387	1915,586	-4,414	1920
179,25		1916,973	1,392	1915,581	-4,419	1920
179,5		1916,973	1,4	1915,573	-4,427	1920
179,75		1916,973	1,409	1915,564	-4,436	1920
180		1916,973	1,415	1915,558	-4,442	1920
180,25		1916,973	1,425	1915,548	-4,452	1920
180,5		1916,973	1,434	1915,539	-4,461	1920
180,75		1916,973	1,443	1915,53	-4,47	1920
181		1916,973	1,449	1915,524	-4,476	1920
181,25		1916,973	1,456	1915,517	-4,483	1920
181,5		1916,973	1,465	1915,508	-4,492	1920
181,75		1916,973	1,472	1915,501	-4,499	1920
182		1916,973	1,479	1915,494	-4,506	1920
182,25		1916,973	1,485	1915,488	-4,512	1920
182,5		1916,973	1,496	1915,477	-4,523	1920
182,75		1916,973	1,504	1915,469	-4,531	1920
183		1916,973	1,513	1915,46	-4,54	1920
183,25		1916,973	1,52	1915,453	-4,547	1920
183,5		1916,973	1,525	1915,448	-4,552	1920
183,75		1916,973	1,533	1915,44	-4,56	1920
184		1916,973	1,54	1915,433	-4,567	1920
184,25		1916,973	1,547	1915,426	-4,574	1920
184,5		1916,973	1,555	1915,418	-4,582	1920
184,75		1916,973	1,565	1915,408	-4,592	1920
185		1916,973	1,571	1915,402	-4,598	1920
185,25		1916,973	1,576	1915,397	-4,603	1920
185,5		1916,973	1,586	1915,387	-4,613	1920
185,75		1916,973	1,596	1915,377	-4,623	1920
186		1916,973	1,601	1915,372	-4,628	1920
186,25		1916,973	1,607	1915,366	-4,634	1920
186,5		1916,973	1,617	1915,356	-4,644	1920
186,75		1916,973	1,625	1915,348	-4,652	1920
187		1916,973	1,633	1915,34	-4,66	1920
187,25		1916,973	1,641	1915,332	-4,668	1920
187,5		1916,973	1,648	1915,325	-4,675	1920
187,75		1916,973	1,655	1915,318	-4,682	1920
188		1916,973	1,662	1915,311	-4,689	1920
188,25		1916,973	1,671	1915,302	-4,698	1920
188,5		1916,973	1,68	1915,293	-4,707	1920
188,75		1916,973	1,686	1915,287	-4,713	1920
189		1916,973	1,694	1915,279	-4,721	1920
189,25		1916,973	1,704	1915,269	-4,731	1920
189,5		1916,973	1,71	1915,263	-4,737	1920
189,75		1916,973	1,718	1915,255	-4,745	1920

190		1916,973	1,725	1915,248	-4,752	1920
190,25		1916,973	1,733	1915,24	-4,76	1920
190,5		1916,973	1,74	1915,233	-4,767	1920
190,75		1916,973	1,746	1915,227	-4,773	1920
191		1916,973	1,755	1915,218	-4,782	1920
191,25		1916,973	1,761	1915,212	-4,788	1920
191,5		1916,973	1,771	1915,202	-4,798	1920
191,75		1916,973	1,777	1915,196	-4,804	1920
192		1916,973	1,785	1915,188	-4,812	1920
192,25		1916,973	1,789	1915,184	-4,816	1920
192,5		1916,973	1,795	1915,178	-4,822	1920
192,75		1916,973	1,805	1915,168	-4,832	1920
193		1916,973	1,81	1915,163	-4,837	1920
193,25		1916,973	1,816	1915,157	-4,843	1920
193,5		1916,973	1,827	1915,146	-4,854	1920
193,75		1916,973	1,832	1915,141	-4,859	1920
194		1916,973	1,839	1915,134	-4,866	1920
194,25		1916,973	1,848	1915,125	-4,875	1920
194,5		1916,973	1,855	1915,118	-4,882	1920
194,75		1916,973	1,86	1915,113	-4,887	1920
195		1916,973	1,867	1915,106	-4,894	1920
195,25		1916,973	1,874	1915,099	-4,901	1920
195,5		1916,973	1,882	1915,091	-4,909	1920
195,75		1916,973	1,888	1915,085	-4,915	1920
196		1916,973	1,898	1915,075	-4,925	1920
196,25		1916,973	1,904	1915,069	-4,931	1920
196,5		1916,973	1,912	1915,061	-4,939	1920
196,75		1916,973	1,92	1915,053	-4,947	1920
197		1916,973	1,928	1915,045	-4,955	1920
197,25		1916,973	1,935	1915,038	-4,962	1920
197,5		1916,973	1,944	1915,029	-4,971	1920
197,75		1916,973	1,954	1915,019	-4,981	1920
198		1916,973	1,96	1915,013	-4,987	1920
198,25		1916,973	1,966	1915,007	-4,993	1920
198,5		1916,973	1,974	1914,999	-5,001	1920
198,75		1916,973	1,981	1914,992	-5,008	1920
199		1916,973	1,987	1914,986	-5,014	1920
199,25		1916,973	1,991	1914,982	-5,018	1920
199,5		1916,973	2	1914,973	-5,027	1920
199,75		1916,973	2,011	1914,962	-5,038	1920
200	0,03	1914,984	2,019	1914,954	-5,046	1920
200,25		1914,984	0,039	1914,945	-5,055	1920
200,5		1914,984	0,045	1914,939	-5,061	1920
200,75		1914,984	0,05	1914,934	-5,066	1920
201		1914,984	0,059	1914,925	-5,075	1920

201,25		1914,984	0,065	1914,919	-5,081	1920
201,5		1914,984	0,071	1914,913	-5,087	1920
201,75		1914,984	0,08	1914,904	-5,096	1920
202		1914,984	0,088	1914,896	-5,104	1920
202,25		1914,984	0,091	1914,893	-5,107	1920
202,5		1914,984	0,1	1914,884	-5,116	1920
202,75		1914,984	0,109	1914,875	-5,125	1920
203		1914,984	0,115	1914,869	-5,131	1920
203,25		1914,984	0,121	1914,863	-5,137	1920
203,5		1914,984	0,13	1914,854	-5,146	1920
203,75		1914,984	0,137	1914,847	-5,153	1920
204		1914,984	0,145	1914,839	-5,161	1920
204,25		1914,984	0,15	1914,834	-5,166	1920
204,5		1914,984	0,159	1914,825	-5,175	1920
204,75		1914,984	0,164	1914,82	-5,18	1920
205		1914,984	0,17	1914,814	-5,186	1920
205,25		1914,984	0,175	1914,809	-5,191	1920
205,5		1914,984	0,18	1914,804	-5,196	1920
205,75		1914,984	0,188	1914,796	-5,204	1920
206		1914,984	0,191	1914,793	-5,207	1920
206,25		1914,984	0,2	1914,784	-5,216	1920
206,5		1914,984	0,204	1914,78	-5,22	1920
206,75		1914,984	0,21	1914,774	-5,226	1920
207		1914,984	0,216	1914,768	-5,232	1920
207,25		1914,984	0,221	1914,763	-5,237	1920
207,5		1914,984	0,229	1914,755	-5,245	1920
207,75		1914,984	0,239	1914,745	-5,255	1920
208		1914,984	0,293	1914,691	-5,309	1920
208,25		1914,984	0,25	1914,734	-5,266	1920
208,5		1914,984	0,258	1914,726	-5,274	1920
208,75		1914,984	0,263	1914,721	-5,279	1920
209		1914,984	0,27	1914,714	-5,286	1920
209,25		1914,984	0,278	1914,706	-5,294	1920
209,5		1914,984	0,281	1914,703	-5,297	1920
209,75		1914,984	0,29	1914,694	-5,306	1920
210		1914,984	0,3	1914,684	-5,316	1920
210,25		1914,984	0,309	1914,675	-5,325	1920
210,5		1914,984	0,311	1914,673	-5,327	1920
210,75		1914,984	0,319	1914,665	-5,335	1920
211		1914,984	0,327	1914,657	-5,343	1920
211,25		1914,984	0,331	1914,653	-5,347	1920
211,5		1914,984	0,34	1914,644	-5,356	1920
211,75		1914,984	0,348	1914,636	-5,364	1920
212		1914,984	0,351	1914,633	-5,367	1920
212,25		1914,984	0,36	1914,624	-5,376	1920

212,5		1914,984	0,368	1914,616	-5,384	1920
212,75		1914,984	0,37	1914,614	-5,386	1920
213		1914,984	0,38	1914,604	-5,396	1920
213,25		1914,984	0,387	1914,597	-5,403	1920
213,5		1914,984	0,39	1914,594	-5,406	1920
213,75		1914,984	0,4	1914,584	-5,416	1920
214		1914,984	0,407	1914,577	-5,423	1920
214,25		1914,984	0,411	1914,573	-5,427	1920
214,5		1914,984	0,42	1914,564	-5,436	1920
214,75		1914,984	0,428	1914,556	-5,444	1920
215		1914,984	0,431	1914,553	-5,447	1920
215,25		1914,984	0,44	1914,544	-5,456	1920
215,5		1914,984	0,449	1914,535	-5,465	1920
215,75		1914,984	0,452	1914,532	-5,468	1920
216		1914,984	0,46	1914,524	-5,476	1920
216,25		1914,984	0,467	1914,517	-5,483	1920
216,5		1914,984	0,471	1914,513	-5,487	1920
216,75		1914,984	0,48	1914,504	-5,496	1920
217		1914,984	0,487	1914,497	-5,503	1920
217,25		1914,984	0,491	1914,493	-5,507	1920
217,5		1914,984	0,5	1914,484	-5,516	1920
217,75		1914,984	0,504	1914,48	-5,52	1920
218		1914,984	0,51	1914,474	-5,526	1920
218,25		1914,984	0,52	1914,464	-5,536	1920
218,5		1914,984	0,526	1914,458	-5,542	1920
218,75		1914,984	0,53	1914,454	-5,546	1920
219		1914,984	0,54	1914,444	-5,556	1920
219,25		1914,984	0,546	1914,438	-5,562	1920
219,5		1914,984	0,551	1914,433	-5,567	1920
219,75		1914,984	0,56	1914,424	-5,576	1920
220		1914,984	0,568	1914,416	-5,584	1920
220,25		1914,984	0,571	1914,413	-5,587	1920
220,5		1914,984	0,58	1914,404	-5,596	1920
220,75		1914,984	0,587	1914,397	-5,603	1920
221		1914,984	0,591	1914,393	-5,607	1920
221,25		1914,984	0,6	1914,384	-5,616	1920
221,5		1914,984	0,609	1914,375	-5,625	1920
221,75		1914,984	0,616	1914,368	-5,632	1920
222		1914,984	0,622	1914,362	-5,638	1920
222,25		1914,984	0,629	1914,355	-5,645	1920
222,5		1914,984	0,634	1914,35	-5,65	1920
222,75		1914,984	0,64	1914,344	-5,656	1920
223		1914,984	0,649	1914,335	-5,665	1920
223,25		1914,984	0,654	1914,33	-5,67	1920
223,5		1914,984	0,66	1914,324	-5,676	1920

223,75		1914,984	0,669	1914,315	-5,685	1920
224		1914,984	0,672	1914,312	-5,688	1920
224,25		1914,984	0,68	1914,304	-5,696	1920
224,5		1914,984	0,688	1914,296	-5,704	1920
224,75		1914,984	0,693	1914,291	-5,709	1920
225		1914,984	0,699	1914,285	-5,715	1920
225,25		1914,984	0,705	1914,279	-5,721	1920
225,5		1914,984	0,712	1914,272	-5,728	1920
225,75		1914,984	0,72	1914,264	-5,736	1920
226		1914,984	0,728	1914,256	-5,744	1920
226,25		1914,984	0,732	1914,252	-5,748	1920
226,5		1914,984	0,739	1914,245	-5,755	1920
226,75		1914,984	0,746	1914,238	-5,762	1920
227		1914,984	0,75	1914,234	-5,766	1920
227,25		1914,984	0,759	1914,225	-5,775	1920
227,5		1914,984	0,763	1914,221	-5,779	1920
227,75		1914,984	0,769	1914,215	-5,785	1920
228		1914,984	0,773	1914,211	-5,789	1920
228,25		1914,984	0,781	1914,203	-5,797	1920
228,5		1914,984	0,786	1914,198	-5,802	1920
228,75		1914,984	0,79	1914,194	-5,806	1920
229		1914,984	0,8	1914,184	-5,816	1920
229,25		1914,984	0,803	1914,181	-5,819	1920
229,5		1914,984	0,809	1914,175	-5,825	1920
229,75		1914,984	0,813	1914,171	-5,829	1920
230		1914,984	0,821	1914,163	-5,837	1920
230,25		1914,984	0,826	1914,158	-5,842	1920
230,5		1914,984	0,83	1914,154	-5,846	1920
230,75		1914,984	0,838	1914,146	-5,854	1920
231		1914,984	0,841	1914,143	-5,857	1920
231,25		1914,984	0,847	1914,137	-5,863	1920
231,5		1914,984	0,851	1914,133	-5,867	1920
231,75		1914,984	0,859	1914,125	-5,875	1920
232		1914,984	0,862	1914,122	-5,878	1920
232,25		1914,984	0,868	1914,116	-5,884	1920
232,5		1914,984	0,871	1914,113	-5,887	1920
232,75		1914,984	0,88	1914,104	-5,896	1920
233		1914,984	0,884	1914,1	-5,9	1920
233,25		1914,984	0,889	1914,095	-5,905	1920
233,5		1914,984	0,895	1914,089	-5,911	1920
233,75		1914,984	0,9	1914,084	-5,916	1920
234		1914,984	0,905	1914,079	-5,921	1920
234,25		1914,984	0,91	1914,074	-5,926	1920
234,5		1914,984	0,917	1914,067	-5,933	1920
234,75		1914,984	0,921	1914,063	-5,937	1920

235		1914,984	0,924	1914,06	-5,94	1920
235,25		1914,984	0,93	1914,054	-5,946	1920
235,5		1914,984	0,934	1914,05	-5,95	1920
235,75		1914,984	0,939	1914,045	-5,955	1920
236		1914,984	0,943	1914,041	-5,959	1920
236,25		1914,984	0,949	1914,035	-5,965	1920
236,5		1914,984	0,951	1914,033	-5,967	1920
236,75		1914,984	0,958	1914,026	-5,974	1920
237		1914,984	0,961	1914,023	-5,977	1920
237,25		1914,984	0,965	1914,019	-5,981	1920
237,5		1914,984	0,969	1914,015	-5,985	1920
237,75		1914,984	0,972	1914,012	-5,988	1920
238		1914,984	0,975	1914,009	-5,991	1920
238,25		1914,984	0,98	1914,004	-5,996	1920
238,5		1914,984	0,983	1914,001	-5,999	1920
238,75		1914,984	0,986	1913,998	-6,002	1920
239		1914,984	0,989	1913,995	-6,005	1920
239,25		1914,984	0,994	1913,99	-6,01	1920
239,5		1914,984	0,999	1913,985	-6,015	1920
239,75		1914,984	1,001	1913,983	-6,017	1920
240		1914,984	1,006	1913,978	-6,022	1920
240,25		1914,984	1,009	1913,975	-6,025	1920
240,5		1914,984	1,011	1913,973	-6,027	1920
240,75		1914,984	1,016	1913,968	-6,032	1920
241		1914,984	1,02	1913,964	-6,036	1920
241,25		1914,984	1,021	1913,963	-6,037	1920
241,5		1914,984	1,026	1913,958	-6,042	1920
241,75		1914,984	1,029	1913,955	-6,045	1920
242		1914,984	1,031	1913,953	-6,047	1920
242,25		1914,984	1,038	1913,946	-6,054	1920
242,5		1914,984	1,042	1913,942	-6,058	1920
242,75		1914,984	1,046	1913,938	-6,062	1920
243		1914,984	1,049	1913,935	-6,065	1920
243,25		1914,984	1,051	1913,933	-6,067	1920
243,5		1914,984	1,057	1913,927	-6,073	1920
243,75		1914,984	1,06	1913,924	-6,076	1920
244		1914,984	1,062	1913,922	-6,078	1920
244,25		1914,984	1,068	1913,916	-6,084	1920
244,5		1914,984	1,07	1913,914	-6,086	1920
244,75		1914,984	1,073	1913,911	-6,089	1920
245		1914,984	1,078	1913,906	-6,094	1920
245,25		1914,984	1,08	1913,904	-6,096	1920
245,5		1914,984	1,083	1913,901	-6,099	1920
245,75		1914,984	1,086	1913,898	-6,102	1920
246		1914,984	1,089	1913,895	-6,105	1920

246,25		1914,984	1,091	1913,893	-6,107	1920
246,5		1914,984	1,095	1913,889	-6,111	1920
246,75		1914,984	1,099	1913,885	-6,115	1920
247		1914,984	1,1	1913,884	-6,116	1920
247,25		1914,984	1,104	1913,88	-6,12	1920
247,5		1914,984	1,108	1913,876	-6,124	1920
247,75		1914,984	1,111	1913,873	-6,127	1920
248		1914,984	1,113	1913,871	-6,129	1920
248,25		1914,984	1,118	1913,866	-6,134	1920
248,5		1914,984	1,12	1913,864	-6,136	1920
248,75		1914,984	1,121	1913,863	-6,137	1920
249		1914,984	1,123	1913,861	-6,139	1920
249,25		1914,984	1,127	1913,857	-6,143	1920
249,5		1914,984	1,129	1913,855	-6,145	1920
249,75		1914,984	1,131	1913,853	-6,147	1920
250		1914,984	1,135	1913,849	-6,151	1920
250,25		1914,984	1,138	1913,846	-6,154	1920
250,5		1914,984	1,14	1913,844	-6,156	1920
250,75		1914,984	1,143	1913,841	-6,159	1920
251		1914,984	1,146	1913,838	-6,162	1920
251,25		1914,984	1,149	1913,835	-6,165	1920
251,5		1914,984	1,15	1913,834	-6,166	1920
251,75		1914,984	1,154	1913,83	-6,17	1920
252		1914,984	1,158	1913,826	-6,174	1920
252,25		1914,984	1,16	1913,824	-6,176	1920
252,5		1914,984	1,163	1913,821	-6,179	1920
252,75		1914,984	1,166	1913,818	-6,182	1920
253		1914,984	1,168	1913,816	-6,184	1920
253,25		1914,984	1,17	1913,814	-6,186	1920
253,5		1914,984	1,173	1913,811	-6,189	1920
253,75		1914,984	1,176	1913,808	-6,192	1920
254		1914,984	1,179	1913,805	-6,195	1920
254,25		1914,984	1,181	1913,803	-6,197	1920
254,5		1914,984	1,183	1913,801	-6,199	1920
254,75		1914,984	1,187	1913,797	-6,203	1920
255		1914,984	1,189	1913,795	-6,205	1920
255,25		1914,984	1,192	1913,792	-6,208	1920
255,5		1914,984	1,195	1913,789	-6,211	1920
255,75		1914,984	1,199	1913,785	-6,215	1920
256		1914,984	1,201	1913,783	-6,217	1920
256,25		1914,984	1,203	1913,781	-6,219	1920
256,5		1914,984	1,208	1913,776	-6,224	1920
256,75		1914,984	1,21	1913,774	-6,226	1920
257		1914,984	1,213	1913,771	-6,229	1920
257,25		1914,984	1,218	1913,766	-6,234	1920

257,5		1914,984	1,221	1913,763	-6,237	1920
257,75		1914,984	1,223	1913,761	-6,239	1920
258		1914,984	1,228	1913,756	-6,244	1920
258,25		1914,984	1,23	1913,754	-6,246	1920
258,5		1914,984	1,234	1913,75	-6,25	1920
258,75		1914,984	1,237	1913,747	-6,253	1920
259		1914,984	1,24	1913,744	-6,256	1920
259,25		1914,984	1,243	1913,741	-6,259	1920
259,5		1914,984	1,248	1913,736	-6,264	1920
259,75		1914,984	1,25	1913,734	-6,266	1920
260		1914,984	1,253	1913,731	-6,269	1920
260,25		1914,984	1,258	1913,726	-6,274	1920
260,5		1914,984	1,26	1913,724	-6,276	1920
260,75		1914,984	1,262	1913,722	-6,278	1920
261		1914,984	1,267	1913,717	-6,283	1920
261,25		1914,984	1,269	1913,715	-6,285	1920
261,5		1914,984	1,272	1913,712	-6,288	1920
261,75		1914,984	1,275	1913,709	-6,291	1920
262		1914,984	1,28	1913,704	-6,296	1920
262,25		1914,984	1,282	1913,702	-6,298	1920
262,5		1914,984	1,287	1913,697	-6,303	1920
262,75		1914,984	1,289	1913,695	-6,305	1920
263		1914,984	1,292	1913,692	-6,308	1920
263,25		1914,984	1,298	1913,686	-6,314	1920
263,5		1914,984	1,301	1913,683	-6,317	1920
263,75		1914,984	1,305	1913,679	-6,321	1920
264		1914,984	1,308	1913,676	-6,324	1920
264,25		1914,984	1,31	1913,674	-6,326	1920
264,5		1914,984	1,311	1913,673	-6,327	1920
264,75		1914,984	1,315	1913,669	-6,331	1920
265		1914,984	1,318	1913,666	-6,334	1920
265,25		1914,984	1,321	1913,663	-6,337	1920
265,5		1914,984	1,323	1913,661	-6,339	1920
265,75		1914,984	1,325	1913,659	-6,341	1920
266		1914,984	1,328	1913,656	-6,344	1920
266,25		1914,984	1,33	1913,654	-6,346	1920
266,5		1914,984	1,331	1913,653	-6,347	1920
266,75		1914,984	1,334	1913,65	-6,35	1920
267		1914,984	1,337	1913,647	-6,353	1920
267,25		1914,984	1,339	1913,645	-6,355	1920
267,5		1914,984	1,34	1913,644	-6,356	1920
267,75		1914,984	1,341	1913,643	-6,357	1920
268		1914,984	1,342	1913,642	-6,358	1920
268,25		1914,984	1,346	1913,638	-6,362	1920
268,5		1914,984	1,348	1913,636	-6,364	1920

268,75		1914,984	1,349	1913,635	-6,365	1920
269		1914,984	1,35	1913,634	-6,366	1920
269,25		1914,984	1,35	1913,634	-6,366	1920
269,5		1914,984	1,355	1913,629	-6,371	1920
269,75		1914,984	1,357	1913,627	-6,373	1920
270		1914,984	1,36	1913,624	-6,376	1920
270,25		1914,984	1,362	1913,622	-6,378	1920
270,5		1914,984	1,365	1913,619	-6,381	1920
270,75		1914,984	1,367	1913,617	-6,383	1920
271		1914,984	1,369	1913,615	-6,385	1920
271,25		1914,984	1,37	1913,614	-6,386	1920
271,5		1914,984	1,372	1913,612	-6,388	1920
271,75		1914,984	1,374	1913,61	-6,39	1920
272		1914,984	1,379	1913,605	-6,395	1920
272,25		1914,984	1,38	1913,604	-6,396	1920
272,5		1914,984	1,381	1913,603	-6,397	1920
272,75		1914,984	1,381	1913,603	-6,397	1920
273		1914,984	1,383	1913,601	-6,399	1920
273,25		1914,984	1,382	1913,602	-6,398	1920
273,5		1914,984	1,383	1913,601	-6,399	1920
273,75		1914,984	1,385	1913,599	-6,401	1920
274		1914,984	1,386	1913,598	-6,402	1920
274,25		1914,984	1,386	1913,598	-6,402	1920
274,5		1914,984	1,388	1913,596	-6,404	1920
274,75		1914,984	1,389	1913,595	-6,405	1920
275		1914,984	1,39	1913,594	-6,406	1920
275,25		1914,984	1,389	1913,595	-6,405	1920
275,5		1914,984	1,39	1913,594	-6,406	1920
275,75		1914,984	1,39	1913,594	-6,406	1920
276		1914,984	1,39	1913,594	-6,406	1920
276,25		1914,984	1,39	1913,594	-6,406	1920
276,5		1914,984	1,39	1913,594	-6,406	1920
276,75		1914,984	1,391	1913,593	-6,407	1920
277		1914,984	1,39	1913,594	-6,406	1920
277,25		1914,984	1,391	1913,593	-6,407	1920
277,5		1914,984	1,391	1913,593	-6,407	1920
277,75		1914,984	1,39	1913,594	-6,406	1920
278		1914,984	1,39	1913,594	-6,406	1920
278,25		1914,984	1,39	1913,594	-6,406	1920
278,5		1914,984	1,39	1913,594	-6,406	1920
278,75		1914,984	1,389	1913,595	-6,405	1920
279		1914,984	1,389	1913,595	-6,405	1920
279,25		1914,984	1,389	1913,595	-6,405	1920
279,5		1914,984	1,388	1913,596	-6,404	1920
279,75		1914,984	1,388	1913,596	-6,404	1920

280		1914,984	1,386	1913,598	-6,402	1920
280,25		1914,984	1,384	1913,6	-6,4	1920
280,5		1914,984	1,383	1913,601	-6,399	1920
280,75		1914,984	1,382	1913,602	-6,398	1920
281		1914,984	1,381	1913,603	-6,397	1920
281,25		1914,984	1,381	1913,603	-6,397	1920
281,5		1914,984	1,381	1913,603	-6,397	1920
281,75		1914,984	1,38	1913,604	-6,396	1920
282		1914,984	1,38	1913,604	-6,396	1920
282,25		1914,984	1,38	1913,604	-6,396	1920
282,5		1914,984	1,38	1913,604	-6,396	1920
282,75		1914,984	1,38	1913,604	-6,396	1920
283		1914,984	1,38	1913,604	-6,396	1920
283,25		1914,984	1,379	1913,605	-6,395	1920
283,5		1914,984	1,379	1913,605	-6,395	1920
283,75		1914,984	1,379	1913,605	-6,395	1920
284		1914,984	1,375	1913,609	-6,391	1920
284,25		1914,984	1,372	1913,612	-6,388	1920
284,5		1914,984	1,371	1913,613	-6,387	1920
284,75		1914,984	1,371	1913,613	-6,387	1920
285		1914,984	1,37	1913,614	-6,386	1920
285,25		1914,984	1,37	1913,614	-6,386	1920
285,5		1914,984	1,37	1913,614	-6,386	1920
285,75		1914,984	1,369	1913,615	-6,385	1920
286		1914,984	1,369	1913,615	-6,385	1920
286,25		1914,984	1,368	1913,616	-6,384	1920
286,5		1914,984	1,368	1913,616	-6,384	1920
286,75		1914,984	1,365	1913,619	-6,381	1920
287		1914,984	1,362	1913,622	-6,378	1920
287,25		1914,984	1,361	1913,623	-6,377	1920
287,5		1914,984	1,361	1913,623	-6,377	1920
287,75		1914,984	1,36	1913,624	-6,376	1920
288		1914,984	1,359	1913,625	-6,375	1920
288,25		1914,984	1,358	1913,626	-6,374	1920
288,5		1914,984	1,355	1913,629	-6,371	1920
288,75		1914,984	1,35	1913,634	-6,366	1920
289		1914,984	1,35	1913,634	-6,366	1920
289,25		1914,984	1,349	1913,635	-6,365	1920
289,5		1914,984	1,349	1913,635	-6,365	1920
289,75		1914,984	1,348	1913,636	-6,364	1920
290		1914,984	1,349	1913,635	-6,365	1920
290,25		1914,984	1,346	1913,638	-6,362	1920
290,5		1914,984	1,344	1913,64	-6,36	1920
290,75		1914,984	1,343	1913,641	-6,359	1920
291		1914,984	1,341	1913,643	-6,357	1920

291,25		1914,984	1,34	1913,644	-6,356	1920
291,5		1914,984	1,34	1913,644	-6,356	1920
291,75		1914,984	1,339	1913,645	-6,355	1920
292		1914,984	1,339	1913,645	-6,355	1920
292,25		1914,984	1,339	1913,645	-6,355	1920
292,5		1914,984	1,338	1913,646	-6,354	1920
292,75		1914,984	1,336	1913,648	-6,352	1920
293		1914,984	1,336	1913,648	-6,352	1920
293,25		1914,984	1,333	1913,651	-6,349	1920
293,5		1914,984	1,332	1913,652	-6,348	1920
293,75		1914,984	1,33	1913,654	-6,346	1920
294		1914,984	1,331	1913,653	-6,347	1920
294,25		1914,984	1,331	1913,653	-6,347	1920
294,5		1914,984	1,33	1913,654	-6,346	1920
294,75		1914,984	1,33	1913,654	-6,346	1920
295		1914,984	1,33	1913,654	-6,346	1920
295,25		1914,984	1,33	1913,654	-6,346	1920
295,5		1914,984	1,328	1913,656	-6,344	1920
295,75		1914,984	1,329	1913,655	-6,345	1920
296		1914,984	1,328	1913,656	-6,344	1920
296,25		1914,984	1,328	1913,656	-6,344	1920
296,5		1914,984	1,326	1913,658	-6,342	1920
296,75		1914,984	1,325	1913,659	-6,341	1920
297		1914,984	1,321	1913,663	-6,337	1920
297,25		1914,984	1,32	1913,664	-6,336	1920
297,5		1914,984	1,32	1913,664	-6,336	1920
297,75		1914,984	1,319	1913,665	-6,335	1920
298		1914,984	1,318	1913,666	-6,334	1920
298,25		1914,984	1,317	1913,667	-6,333	1920
298,5		1914,984	1,313	1913,671	-6,329	1920
298,75		1914,984	1,31	1913,674	-6,326	1920
299		1914,984	1,311	1913,673	-6,327	1920
299,25		1914,984	1,309	1913,675	-6,325	1920
299,5		1914,984	1,306	1913,678	-6,322	1920
299,75		1914,984	1,305	1913,679	-6,321	1920
300		1914,984	1,301	1913,683	-6,317	1920
300,25		1914,984	1,3	1913,684	-6,316	1920
300,5		1914,984	1,3	1913,684	-6,316	1920
300,75		1914,984	1,299	1913,685	-6,315	1920
301		1914,984	1,292	1913,692	-6,308	1920
301,25		1914,984	1,29	1913,694	-6,306	1920
301,5		1914,984	1,289	1913,695	-6,305	1920
301,75		1914,984	1,287	1913,697	-6,303	1920
302		1914,984	1,282	1913,702	-6,298	1920
302,25		1914,984	1,28	1913,704	-6,296	1920

302,5		1914,984	1,279	1913,705	-6,295	1920
302,75		1914,984	1,272	1913,712	-6,288	1920
303		1914,984	1,27	1913,714	-6,286	1920
303,25		1914,984	1,27	1913,714	-6,286	1920
303,5		1914,984	1,268	1913,716	-6,284	1920
303,75		1914,984	1,261	1913,723	-6,277	1920
304		1914,984	1,26	1913,724	-6,276	1920
304,25		1914,984	1,257	1913,727	-6,273	1920
304,5		1914,984	1,251	1913,733	-6,267	1920
304,75		1914,984	1,25	1913,734	-6,266	1920
305		1914,984	1,249	1913,735	-6,265	1920
305,25		1914,984	1,247	1913,737	-6,263	1920
305,5		1914,984	1,243	1913,741	-6,259	1920
305,75		1914,984	1,24	1913,744	-6,256	1920
306		1914,984	1,24	1913,744	-6,256	1920
306,25		1914,984	1,239	1913,745	-6,255	1920
306,5		1914,984	1,239	1913,745	-6,255	1920
306,75		1914,984	1,232	1913,752	-6,248	1920
307		1914,984	1,23	1913,754	-6,246	1920
307,25		1914,984	1,229	1913,755	-6,245	1920
307,5		1914,984	1,224	1913,76	-6,24	1920
307,75		1914,984	1,222	1913,762	-6,238	1920
308		1914,984	1,22	1913,764	-6,236	1920
308,25		1914,984	1,219	1913,765	-6,235	1920
308,5		1914,984	1,216	1913,768	-6,232	1920
308,75		1914,984	1,211	1913,773	-6,227	1920
309		1914,984	1,21	1913,774	-6,226	1920
309,25		1914,984	1,21	1913,774	-6,226	1920
309,5		1914,984	1,208	1913,776	-6,224	1920
309,75		1914,984	1,205	1913,779	-6,221	1920
310		1914,984	1,204	1913,78	-6,22	1920
310,25		1914,984	1,2	1913,784	-6,216	1920
310,5		1914,984	1,2	1913,784	-6,216	1920
310,75		1914,984	1,199	1913,785	-6,215	1920
311		1914,984	1,195	1913,789	-6,211	1920
311,25		1914,984	1,19	1913,794	-6,206	1920
311,5		1914,984	1,19	1913,794	-6,206	1920
311,75		1914,984	1,189	1913,795	-6,205	1920
312		1914,984	1,188	1913,796	-6,204	1920
312,25		1914,984	1,188	1913,796	-6,204	1920
312,5		1914,984	1,188	1913,796	-6,204	1920
312,75		1914,984	1,187	1913,797	-6,203	1920
313		1914,984	1,185	1913,799	-6,201	1920
313,25		1914,984	1,183	1913,801	-6,199	1920
313,5		1914,984	1,182	1913,802	-6,198	1920

313,75		1914,984	1,183	1913,801	-6,199	1920
314		1914,984	1,182	1913,802	-6,198	1920
314,25		1914,984	1,182	1913,802	-6,198	1920
314,5		1914,984	1,182	1913,802	-6,198	1920
314,75		1914,984	1,182	1913,802	-6,198	1920
315		1914,984	1,181	1913,803	-6,197	1920
315,25		1914,984	1,18	1913,804	-6,196	1920
315,5		1914,984	1,18	1913,804	-6,196	1920
315,75		1914,984	1,18	1913,804	-6,196	1920
316		1914,984	1,179	1913,805	-6,195	1920
316,25		1914,984	1,18	1913,804	-6,196	1920
316,5		1914,984	1,181	1913,803	-6,197	1920
316,75		1914,984	1,18	1913,804	-6,196	1920
317		1914,984	1,18	1913,804	-6,196	1920
317,25		1914,984	1,18	1913,804	-6,196	1920
317,5		1914,984	1,179	1913,805	-6,195	1920
317,75		1914,984	1,179	1913,805	-6,195	1920
318		1914,984	1,179	1913,805	-6,195	1920
318,25		1914,984	1,179	1913,805	-6,195	1920
318,5		1914,984	1,179	1913,805	-6,195	1920
318,75		1914,984	1,18	1913,804	-6,196	1920
319		1914,984	1,179	1913,805	-6,195	1920
319,25		1914,984	1,179	1913,805	-6,195	1920
319,5		1914,984	1,179	1913,805	-6,195	1920
319,75		1914,984	1,179	1913,805	-6,195	1920
320		1914,984	1,178	1913,806	-6,194	1920

ANEXO 2: EIRI Y CIRI DE UN TRAMO DE LA CIUDAD DE HUANUCO

Tabla a.2: eIRI y cIRI de los pavimentos de una calle de la ciudad de Huánuco utilizados para realizar la figura 66

Distancia	Velocidad (Km/h)	eIRI	cIRI
100	34.47	2.4	1.37
200	35.93	6.16	1.63
300	35.4	11	2.83
400	33.05	13.54	3.32
500	35.89	9.51	4.36
600	38.6	7.48	3.13
700	35.81	5.28	2.6
800	40.15	8.17	3.96
900	37.53	12.48	3.22
1000	38.5	8.39	3.9
1100	37.68	6.34	3.4
1200	35.78	4.43	2.88
1300	36.23	5	2.73
1400	38.73	7.2	3
1500	37.56	3.3	2.22
1600	39.8	3.36	2.1
1700	40.23	4.85	2.77
1800	29.9	5.41	2.52
1900	32.46	8.4	2.81
2000	40.39	6.35	3.84
2100	33.37	6.15	2.79
2200	34	4.6	2.82
2300	31.28	6.26	2.54
2400	18.89	6.42	1.95
2500	19.01	7.51	1.55
2600	33.56	8.21	2.7
2700	32.48	6.5	3.68
2800	30.4	4.67	2.7
2900	29.28	3.59	1.59
3000	34.99	6.8	2.44
3100	23.45	4.34	1.77
3200	24.72	4.92	1.55
3300	31.72	3.86	2.27
3400	31.14	3.69	2.27
3500	38.43	3.38	2.45
3600	32.72	5.92	2.52
3700	39.69	7.75	3.52

3800	41.76	6.61	3.73
3900	42.88	6.49	4.14
4000	40.53	5.45	3.29
4100	40.69	7.19	3.2
4200	37.51	11.83	4.7
4300	34.13	7.54	4.12
4400	23.43	6.94	2.28
4500	27.65	5.75	2.52
4600	25.88	5.05	2.1
4700	21.34	4.38	1.66
4800	29.21	5.8	2.11
4900	39.62	5.2	2.79
5000	36.57	8.07	2.85
5100	45.07	11.29	4.59
5200	45.8	4.65	3.73
5300	41.98	4.36	3.05
5400	28.75	2.8	1.69
5500	40.66	7.34	2.73
5600	45.41	6.05	4.41
5700	40.17	14.15	5.4
5800	41.9	12.79	4.8
5900	43.13	5.88	4.11
6000	42.63	10.04	4.76
6100	36.33	6.71	3.81
6200	38.23	5.58	3.02
6300	42.67	4.39	2.59
6400	34.58	6.15	2.34
6500	32.37	9.19	3.39
6600	40.34	5.44	3.28
6700	43.16	3.91	2.59
6800	47.15	2.98	2.78
6900	45.61	2.58	2.78
7000	45.61	3.33	3.26
7100	45.91	4.35	3.03
7200	41.57	8.31	4.01
7300	35.94	8.03	4.16
7400	25.41	7	2.55
7500	35.38	4.27	1.8
7600	38.48	3.75	2.53
7700	37.13	5.12	2.93
7800	46.54	2.58	2.82
7900	50.37	2.11	2.62
8000	48.51	3.57	3.15
8100	41.69	2.87	2.42
8200	43.95	3.76	2.68

8300	39.48	3.44	2.39
8400	40.71	2.54	1.96
8500	39.3	2.52	1.76
8600	26.41	5.77	2.06
8700	28.5	6.14	2.74
8800	41.65	4.17	2.56
8900	43.34	11.7	4.89
9000	41.61	12.89	6.61
9100	23.88	6.94	1.98
9200	27.33	5.54	3.35
9300	38.24	8.74	4.27
9400	40.51	3.4	3.01
9500	43.62	5.26	3.69
9600	27.78	5.04	1.97
9700	41.02	4.01	2.84
9800	44.22	7.28	4.35
9900	39.12	6.75	3.74
10000	41.4	5.61	2.61
10100	44.15	9.3	4.24
10200	42.55	11.99	4.75
10300	37.18	11.7	5.14

ANEXO 3: DATOS UTILIZADOS PARA CALCULAR EL EIRI CON SINGULARIDADES Y EL EIRI SIN SINGULARIDADES

Tabla a.3: eIRI con y sin singularidades usados para realizar la figura 66.

METROS	eIRI CON SINGULARIDADES	eIRI SIN SINGULARIDADES
100	1.43	1.77
200	1.48	1.51
300	1.36	1.7
400	1.32	1.58
500	1.52	1.49
600	1.39	1.54
700	1.52	1.47
800	1.31	1.5
900	1.55	1.73
1000	11.93	
1100	1.44	1.38
1200	1.31	1.44
1300	1.48	1.59
1400	1.33	1.86
1500	1.59	1.61
1600	1.92	1.98
1700	1.86	
1800	5.85	
1900	1.43	1.67
2000	1.35	1.57
2100	1.71	1.52
2200	1.6	1.78
2300	1.53	1.5
2400	1.42	1.64
2500	1.39	1.52
2600	1.19	1.65
2700	5.97	
2800	6.29	
2900	1.53	1.46
3000	6.23	
3100	1.62	1.5
3200	1.46	1.49
3300	5.75	1.46
3400	1.86	1.35
3500	1.53	1.44
3600	1.75	2.05

3700	1.52	1.92
3800	1.61	1.61
3900	1.5	1.56
4000	1.66	1.72
4100	1.63	1.6
4200	1.73	1.83
4300	1.46	1.38
4400	1.49	1.46
4500	5.01	
4600	1.78	1.7
4700	1.77	1.56
4800	1.48	1.49
4900	1.53	1.58
5000	1.5	1.54
5100	1.63	2.3
5200	1.6	1.52
5300	1.45	1.47
5400	1.63	1.51
5500	1.76	1.61

ANEXO 4: EIRI Y CIRI SEGÚN LA VELOCIDAD EMPLEADA

Tabla a.4: eIRI y cIRI según la velocidad usados para graficar las figuras 81-87

VELOCIDAD	EIRI	CIRI
18.89	6.42	1.95
19.01	7.51	1.55
21.34	4.38	1.66
23.43	6.94	2.28
23.45	4.34	1.77
23.88	6.94	1.98
24.72	4.92	1.55
25.41	7	2.55
25.88	5.05	2.1
26.41	5.77	2.06
27.33	5.54	3.35
27.65	5.75	2.52
27.78	5.04	1.97
28.5	6.14	2.74
28.75	2.8	1.69
29.21	5.8	2.11
29.28	3.59	1.59
29.9	5.41	2.52
30.4	4.67	2.7
31.14	3.69	2.27
31.28	6.26	2.54
31.72	3.86	2.27
32.37	9.19	3.39
32.46	8.4	2.81
32.48	6.5	3.68
32.72	5.92	2.52
33.05	13.54	3.32
33.37	6.15	2.79
33.56	8.21	2.7
34	4.6	2.82
34.13	7.54	4.12
34.47	2.4	1.37
34.58	6.15	2.34
34.99	6.8	2.44
35.38	4.27	1.8
35.4	11	2.83
35.78	4.43	2.88

35.81	5.28	2.6
35.89	9.51	4.36
35.93	6.16	1.63
35.94	8.03	4.16
36.23	5	2.73
36.33	6.71	3.81
36.57	8.07	2.85
37.13	5.12	2.93
37.18	11.7	5.14
37.51	11.83	4.7
37.53	12.48	3.22
37.56	3.3	2.22
37.68	6.34	3.4
38.23	5.58	3.02
38.24	8.74	4.27
38.43	3.38	2.45
38.48	3.75	2.53
38.5	8.39	3.9
38.6	7.48	3.13
38.73	7.2	3
39.12	6.75	3.74
39.3	2.52	1.76
39.48	3.44	2.39
39.62	5.2	2.79
39.69	7.75	3.52
39.8	3.36	2.1
40.15	8.17	3.96
40.17	14.15	5.4
40.23	4.85	2.77
40.34	5.44	3.28
40.39	6.35	3.84
40.51	3.4	3.01
40.53	5.45	3.29
40.66	7.34	2.73
40.69	7.19	3.2
40.71	2.54	1.96
41.02	4.01	2.84
41.4	5.61	2.61
41.57	8.31	4.01
41.61	12.89	6.61
41.65	4.17	2.56
41.69	2.87	2.42
41.76	6.61	3.73
41.9	12.79	4.8
41.98	4.36	3.05

42.55	11.99	4.75
42.63	10.04	4.76
42.67	4.39	2.59
42.88	6.49	4.14
43.13	5.88	4.11
43.16	3.91	2.59
43.34	11.7	4.89
43.62	5.26	3.69
43.95	3.76	2.68
44.15	9.3	4.24
44.22	7.28	4.35
45.07	11.29	4.59
45.41	6.05	4.41
45.61	2.58	2.78
45.61	3.33	3.26
45.8	4.65	3.73
45.91	4.35	3.03
46.54	2.58	2.82
47.15	2.98	2.78
48.51	3.57	3.15
50.1	1.62	1.91
50.37	2.11	2.62
50.46	1.48	1.57
50.51	1.44	1.27
50.65	1.49	1.5
50.66	12.62	5.17
50.87	8.34	3.75
51	6.83	4.4
51.03	4.32	3.76
51.09	1.46	1.33
51.29	6.64	4.43
51.37	5.04	4.28
51.44	10.28	4.63
51.74	7.29	4.97
51.95	6.7	4.92
52.03	9.43	5.64
52.17	5.75	1.82
52.29	1.77	1.8
52.44	16.74	7.08
52.52	1.62	1.75
52.72	1.43	1.52
52.75	3.96	4.17
52.97	1.53	1.42
53.01	1.63	1.68
53.13	1.5	1.58

53.67	14.96	6.59
53.99	1.52	1.54
54.08	4.44	4.34
54.13	1.76	2.03
54.26	1.6	2.14
54.42	6.35	4.41
54.54	3.25	4.22
54.78	17.35	6.52
55.11	9.68	4.66
55.3	1.63	1.91
55.45	6.86	2.85
55.56	1.52	1.48
55.64	14.18	5.7
55.86	4.1	3.79
55.99	6.45	3.21
56.32	1.43	1.58
56.74	2.75	3.43
57.07	4.85	4.45
57.6	6.56	2.37
57.71	4.61	4.79
58.07	3.27	3.99
58.52	1.48	1.47
58.53	1.55	1.57
58.86	1.56	2.6
59.23	1.39	1.41
60.01	9.04	6.36
60.05	8.13	3.54
60.39	1.98	2.87
60.52	2.18	2.37
60.59	2.68	3.08
60.6	1.45	1.52
60.62	1.19	1.34
60.66	1.31	1.3
60.66	2.31	3.21
60.77	2.65	3.58
60.83	6.83	3.24
60.87	2.29	3.26
60.95	2.61	3.74
61.12	2.79	2.55
61.23	2.49	3.11
61.6	4.82	4.08
61.6	1.5	1.82
61.68	1.59	1.89
61.76	1.63	2.58
61.84	1.9	3.08

61.84	1.81	2.47
62.02	1.97	2.36
62.02	1.76	2.53
62.02	1.36	1.23
62.14	1.52	1.48
62.15	1.31	1.23
62.23	1.77	3.66
62.29	1.33	1.23
62.44	3.44	3.14
62.64	5.05	4.3
62.68	4.68	3.3
62.7	2.08	2.97
62.84	2.07	3.37
62.84	2.64	3.94
62.87	2.18	2.49
63.15	1.32	1.33
63.16	2.01	2.51
63.17	2.13	2.53
63.34	3.17	4.51
63.41	1.84	2.55
63.48	1.9	3.57
63.66	2.4	3.31
63.69	2.43	2.68
63.8	2.05	2.07
63.83	1.71	2.22
63.95	2.8	2.63
63.98	3.24	3.23
63.93	1.63	1.66
64	5.24	2.49
64.09	5.13	4.61
64.1	8.41	3.75
64.18	2.51	2.92
64.22	2.2	2.85
64.3	2.6	3.06
64.32	1.88	2.29
64.34	2	2.42
64.4	1.66	2.27
64.57	1.71	3
64.6	1.39	1.42
64.65	1.73	2.9
64.9	3.12	3.49
64.94	3.86	4.13
64.97	2.41	2.86
64.99	3.1	3.39
65.1	1.8	2.33

65.13	3.67	4.44
65.13	4.23	5.22
65.22	2.4	3.63
65.28	1.99	2.64
65.39	1.53	1.6
65.41	1.81	2.76
65.48	6.46	2.95
65.58	1.78	2.87
65.59	3.97	3.35
65.7	2.15	3.07
65.76	1.48	1.63
65.77	1.97	2.98
65.85	1.69	2.01
65.9	2.04	2.94
65.91	2.1	3.01
66	2.47	2.64
66.03	1.66	1.77
66.04	1.91	2.13
66.05	1.59	1.52
66.17	2.7	2.98
66.31	1.73	2.09
66.35	1.91	2.49
66.46	2.47	2.64
66.63	2.07	2.29
66.69	2.94	2.37
66.77	1.97	2.98
66.79	1.88	2.79
66.84	8.17	4.94
66.85	1.42	1.61
67.06	2.89	3.39
67.09	3.78	4.04
67.14	1.64	2.44
67.37	3.21	4.15
67.41	1.39	1.72
67.65	1.35	1.75
67.78	1.54	2.08
68.06	4.43	3.69
68.22	3.28	4.39
68.33	3.71	4.52
68.42	5.3	4.5
68.8	2.52	3
69.37	1.82	2.55
69.56	1.83	2.62
70.02	8.6	4.01
70.87	3.34	3.32

72.02	1.92	2.22
72.18	1.86	2.6
74.94	1.71	2.04
75.14	1.6	1.63