UNIVERSIDAD DE LAS FUERZAS ARMADAS - ESPE
EXTENSIÓN LATACUNGA

DEPARTAMENTO: ENERGIA Y MECANICA

CARRERA: INGENIERÍA SOFTWARE

METODOS NUMERICOS

"TRABAJO COLABORATIVO CORRESPONDIENTE A LA SEGUNDA UNIDAD"

INTEGRANTES:

Barahona Cumba Juan Carlos

Acebo Través Ricardo Javier

Inte Santafe Italo David

Simbaña Pilataxi Ismael Alexander

NRC:

8231

PERIODO ACADÉMICO:

Octubre 2021 – Marzo 2022

OCTUBRE 2021 – MARZO 2022

Método por Mínimos Cuadrados

Ajuste de curvas se usa para encontrar una función que responda a una muestra de datos obtenidas de alguna medición, muestreo etc. La aplicación más elemental es para dibujar una curva en una computadora en base a algunos puntos (datos) de manera que se pueda determinar la relación entre los datos con una expresión matemática.

Tabla de Datos de contagios por días en la Provincia del Oro

Método por Mínimos Cuadrados

Tiempo = t

Contagios por días = d

N°	t	d	t^2	d^2	$t * d$
1	24	1	576	1	24
2	48	1	2304	1	48
3	72	1	5184	1	72
4	96	2	9216	4	192
5	120	2	14400	4	240
6	144	6	20736	36	864
7	168	9	28224	81	1512
8	192	14	36864	196	2688
9	216	17	46656	289	3672
10	240	20	57600	400	4800
11	264	21	69696	441	5544
12	288	23	82944	529	6624
13	312	25	97344	625	7800
14	336	30	112896	900	10080
15	360	34	129600	1156	12240
16	384	52	147456	2704	19968
17	408	56	166464	3136	22848
18	432	56	186624	3136	24192
19	456	56	207936	3136	25536

20	480	56	230400	3136	26880
21	504	58	254016	3364	29232
22	528	58	278784	3364	30624
23	552	82	304704	6724	45264
24	576	97	331776	9409	55872
25	600	137	360000	18769	82200
26	624	149	389376	22201	92976
27	648	150	419904	22500	97200
28	672	160	451584	25600	107520
29	696	166	484416	27556	115536
30	720	183	518400	33489	131760
31	744	193	553536	37249	143592
32	768	207	589824	42849	158976
33	792	247	627264	61009	195624
34	816	257	665856	66049	209712
35	840	266	705600	70756	223440
36	864	276	746496	76176	238464
37	888	289	788544	83521	256632
38	912	300	831744	90000	273600
39	936	477	876096	227529	446472
40	960	327	921600	106929	313920
41	984	448	968256	200704	440832
42	1008	457	1016064	208849	460656
43	1032	474	1065024	224676	489168
44	1056	559	1115136	312481	590304
45	1080	575	1166400	330625	621000
46	1104	624	1218816	389376	688896
47	1128	643	1272384	413449	725304
48	1152	628	1327104	394384	723456
49	1176	673	1382976	452929	791448
50	1200	652	1440000	425104	782400
51	1224	658	1498176	432964	805392
52	1248	672	1557504	451584	838656
53	1272	664	1617984	440896	844608
54	1296	707	1679616	499849	916272
55	1320	710	1742400	504100	937200
56	1344	716	1806336	512656	962304
57	1368	839	1871424	703921	1147752
58	1392	907	1937664	822649	1262544
59	1416	920	2005056	846400	1302720
60	1440	935	2073600	874225	1346400

61	1464	959	2143296	919681	1403976
62	1488	976	2214144	952576	1452288
63	1512	994	2286144	988036	1502928
64	1536	1004	2359296	1008016	1542144
65	1560	1017	2433600	1034289	1586520
66	1584	1025	2509056	1050625	1623600
67	1608	1039	2585664	1079521	1670712
68	1632	1050	2663424	1102500	1713600
69	1656	1051	2742336	1104601	1740456
70	1680	1062	2822400	1127844	1784160
71	1704	1066	2903616	1136356	1816464
72	1728	1088	2985984	1183744	1880064
73	1752	1094	3069504	1196836	1916688
74	1776	1167	3154176	1361889	2072592
75	1800	1210	3240000	1464100	2178000
76	1824	1213	3326976	1471369	2212512
77	1848	1223	3415104	1495729	2260104
78	1872	1278	3504384	1633284	2392416
79	1896	1305	3594816	1703025	2474280
80	1920	1309	3686400	1713481	2513280
81	1944	1320	3779136	1742400	2566080
82	1968	1323	3873024	1750329	2603664
83	1992	1347	3968064	1814409	2683224
84	2016	1380	4064256	1904400	2782080
85	2040	1442	4161600	2079364	2941680
86	2064	1489	4260096	2217121	3073296
87	2088	1514	4359744	2292196	3161232
88	2112	1574	4460544	2477476	3324288
89	2136	1580	4562496	2496400	3374880
90	2160	1595	4665600	2544025	3445200
91	2184	1657	4769856	2745649	3618888
92	2208	1743	4875264	3038049	3848544
93	2232	1759	4981824	3094081	3926088
94	2256	1790	5089536	3204100	4038240
95	2280	1803	5198400	3250809	4110840
96	2304	1817	5308416	3301489	4186368
97	2328	1861	5419584	3463321	4332408
98	2352	1882	5531904	3541924	4426464
99	2376	1944	5645376	3779136	4618944
100	2400	1976	5760000	3904576	4742400
101	2424	2013	5875776	4052169	4879512

102	2448	2017	5992704	4068289	4937616
103	2472	2022	6110784	4088484	4998384
104	2496	2042	6230016	4169764	5096832
105	2520	2073	6350400	4297329	5223960
106	2544	2135	6471936	4558225	5431440
107	2568	2156	6594624	4648336	5536608
108	2592	2173	6718464	4721929	5632416
109	2616	2189	6843456	4791721	5726424
110	2640	2192	6969600	4804864	5786880
111	2664	2259	7096896	5103081	6017976
112	2688	2278	7225344	5189284	6123264
113	2712	2296	7354944	5271616	6226752
114	2736	2329	7485696	5424241	6372144
115	2760	2354	7617600	5541316	6497040
116	2784	2406	7750656	5788836	6698304
117	2808	2432	7884864	5914624	6829056
118	2832	2445	8020224	5978025	6924240
119	2856	2496	8156736	6230016	7128576
120	2880	2580	8294400	6656400	7430400
121	2904	2617	8433216	6848689	7599768
122	2928	2626	8573184	6895876	7688928
123	2952	2632	8714304	6927424	7769664
124	2976	2739	8856576	7502121	8151264
125	3000	2745	9000000	7535025	8235000
126	3024	2758	9144576	7606564	8340192
127	3048	2764	9290304	7639696	8424672
128	3072	2879	9437184	8288641	8844288
129	3096	2904	9585216	8433216	8990784
130	3120	2922	9734400	8538084	9116640
131	3144	3001	9884736	9006001	9435144
132	3168	3062	10036224	9375844	9700416
133	3192	3118	10188864	9721924	9952656
134	3216	3181	10342656	10118761	10230096
135	3240	3233	10497600	10452289	10474920
136	3264	3248	10653696	10549504	10601472
137	3288	3291	10810944	10830681	10820808
138	3312	3342	10969344	11168964	11068704
139	3336	3346	11128896	11195716	11162256
140	3360	3357	11289600	11269449	11279520
141	3384	3414	11451456	11655396	11552976
142	3408	3492	11614464	12194064	11900736

143	3432	3588	11778624	12873744	12314016
144	3456	3634	11943936	13205956	12559104
145	3480	3666	12110400	13439556	12757680
146	3504	3721	12278016	13845841	13038384
147	3528	3755	12446784	14100025	13247640
148	3552	3821	12616704	14600041	13572192
149	3576	3845	12787776	14784025	13749720
150	3600	3870	12960000	14976900	13932000
151	3624	3877	13133376	15031129	14050248
152	3648	3958	13307904	15665764	14438784
153	3672	3968	13483584	15745024	14570496
154	3696	3987	13660416	15896169	14735952
155	3720	4041	13838400	16329681	15032520
156	3744	4056	14017536	16451136	15185664
157	3768	4103	14197824	16834609	15460104
158	3792	4159	14379264	17297281	15770928
159	3816	4215	14561856	17766225	16084440
160	3840	4234	14745600	17926756	16258560
161	3864	4277	14930496	18292729	16526328
162	3888	4330	15116544	18748900	16835040
163	3912	4345	15303744	18879025	16997640
164	3936	4376	15492096	19149376	17223936
165	3960	4385	15681600	19228225	17364600
166	3984	4423	15872256	19562929	17621232
167	4008	4464	16064064	19927296	17891712
168	4032	4510	16257024	20340100	18184320
169	4056	4560	16451136	20793600	18495360
170	4080	4629	16646400	21427641	18886320
171	4104	4707	16842816	22155849	19317528
172	4128	4727	17040384	22344529	19513056
173	4152	4755	17239104	22610025	19742760
174	4176	4779	17438976	22838841	19957104
175	4200	4877	17640000	23785129	20483400
176	4224	4951	17842176	24512401	20913024
177	4248	4984	18045504	24840256	21172032
178	4272	5053	18249984	25532809	21586416
179	4296	5082	18455616	25826724	21832272
180	4320	5095	18662400	25959025	22010400
181	4344	5127	18870336	26286129	22271688
182	4368	5162	19079424	26646244	22547616
183	4392	5206	19289664	27102436	22864752

184	4416	5243	19501056	27489049	23153088
185	4440	5277	19713600	27846729	23429880
186	4464	5280	19927296	27878400	23569920
187	4488	5295	20142144	28037025	23763960
188	4512	5313	20358144	28227969	23972256
189	4536	5334	20575296	28451556	24195024
190	4560	5352	20793600	28643904	24405120
191	4584	5371	21013056	28847641	24620664
192	4608	5382	21233664	28965924	24800256
193	4632	5384	21455424	28987456	24938688
194	4656	5400	21678336	29160000	25142400
195	4680	5523	21902400	30503529	25847640
196	4704	5600	22127616	31360000	26342400
197	4728	5619	22353984	31573161	26566632
198	4752	5635	22581504	31753225	26777520
199	4776	5640	22810176	31809600	26936640
200	4800	5654	23040000	31967716	27139200
201	4824	5664	23270976	32080896	27323136
202	4848	5740	23503104	32947600	27827520
203	4872	5797	23736384	33605209	28242984
204	4896	5828	23970816	33965584	28533888
205	4920	5832	24206400	34012224	28693440
206	4944	5833	24443136	34023889	28838352
207	4968	5844	24681024	34152336	29032992
208	4992	5905	24920064	34869025	29477760
209	5016	5936	25160256	35236096	29774976
210	5040	5964	25401600	35569296	30058560
211	5064	6008	25644096	36096064	30424512
212	5088	6009	25887744	36108081	30573792
213	5112	6028	26132544	36336784	30815136
214	5136	6038	26378496	36457444	31011168
215	5160	6040	26625600	36481600	31166400
216	5184	6094	26873856	37136836	31591296
217	5208	6160	27123264	37945600	32081280
218	5232	6253	27373824	39100009	32715696
219	5256	6293	27625536	39601849	33076008
220	5280	6295	27878400	39627025	33237600
221	5304	6310	28132416	39816100	33468240
222	5328	6350	28387584	40322500	33832800
223	5352	6408	28643904	41062464	34295616
224	5376	6433	28901376	41383489	34583808

225	5400	6441	29160000	41486481	34781400
226	5424	6452	29419776	41628304	34995648
227	5448	6477	29680704	41951529	35286696
228	5472	6483	29942784	42029289	35474976
229	5496	6493	30206016	42159049	35685528
230	5520	6497	30470400	42211009	35863440
231	5544	6497	30735936	42211009	36019368
232	5568	6497	31002624	42211009	36175296
233	5592	6524	31270464	42562576	36482208
234	5616	6577	31539456	43256929	36936432
235	5640	6577	31809600	43256929	37094280
236	5664	6605	32080896	43626025	37410720
237	5688	6669	32353344	44475561	37933272
238	5712	6706	32626944	44970436	38304672
239	5736	6785	32901696	46036225	38918760
240	5760	6842	33177600	46812964	39409920
241	5784	6870	33454656	47196900	39736080
242	5808	6872	33732864	47224384	39912576
243	5832	6894	34012224	47527236	40205808
244	5856	6939	34292736	48149721	40634784
245	5880	6975	34574400	48650625	41013000
246	5904	6993	34857216	48902049	41286672
247	5928	7046	35141184	49646116	41768688
248	5952	7073	35426304	50027329	42098496
249	5976	7104	35712576	50466816	42453504
250	6000	7113	36000000	50594769	42678000
251	6024	7156	36288576	51208336	43107744
252	6048	7202	36578304	51868804	43557696
253	6072	7279	36869184	52983841	44198088
254	6096	7311	37161216	53450721	44567856
255	6120	7362	37454400	54199044	45055440
256	6144	7367	37748736	54272689	45262848
257	6168	7390	38044224	54612100	45581520
258	6192	7398	38340864	54730404	45808416
259	6216	7418	38638656	55026724	46110288
260	6240	7462	38937600	55681444	46562880
261	6264	7502	39237696	56280004	46992528
262	6288	7541	39538944	56866681	47417808
263	6312	7549	39841344	56987401	47649288
264	6336	7560	40144896	57153600	47900160
265	6360	7566	40449600	57244356	48119760

266	6384	7620	40755456	58064400	48646080
267	6408	7652	41062464	58553104	49034016
268	6432	7691	41370624	59151481	49468512
269	6456	7730	41679936	59752900	49904880
270	6480	7732	41990400	59783824	50103360
271	6504	7748	42302016	60031504	50392992
272	6528	7780	42614784	60528400	50787840
273	6552	7819	42928704	61136761	51230088
274	6576	7901	43243776	62425801	51956976
275	6600	7938	43560000	63011844	52390800
276	6624	7985	43877376	63760225	52892640
277	6648	7998	44195904	63968004	53170704
278	6672	7998	44515584	63968004	53362656
279	6696	8040	44836416	64641600	53835840
280	6720	8084	45158400	65351056	54324480
281	6744	8147	45481536	66373609	54943368
282	6768	8153	45805824	66471409	55179504
283	6792	8153	46131264	66471409	55375176
284	6816	8199	46457856	67223601	55884384
285	6840	8213	46785600	67453369	56176920
286	6864	8297	47114496	68840209	56950608
287	6888	8323	47444544	69272329	57328824
288	6912	8343	47775744	69605649	57666816
289	6936	8435	48108096	71149225	58505160
290	6960	8438	48441600	71199844	58728480
291	6984	8452	48776256	71436304	59028768
292	7008	8500	49112064	72250000	59568000
293	7032	8547	49449024	73051209	60102504
294	7056	8613	49787136	74183769	60773328
295	7080	8680	50126400	75342400	61454400
296	7104	8796	50466816	77369616	62486784
297	7128	8872	50808384	78712384	63239616
298	7152	8999	51151104	80982001	64360848
299	7176	9048	51494976	81866304	64928448
300	7200	9144	51840000	83612736	65836800
301	7224	9235	52186176	85285225	66713640
302	7248	9321	52533504	86881041	67558608
303	7272	9425	52881984	88830625	68538600
304	7296	9466	53231616	89605156	69063936
305	7320	9478	53582400	89832484	69378960
306	7344	9584	53934336	91853056	70384896

307	7368	9648	54287424	93083904	71086464
308	7392	9768	54641664	95413824	72205056
309	7416	9830	54997056	96628900	72899280
310	7440	9872	55353600	97456384	73447680
311	7464	10011	55711296	100220121	74722104
312	7488	10023	56070144	100460529	75052224
313	7512	10067	56430144	101344489	75623304
314	7536	10078	56791296	101566084	75947808
315	7560	10162	57153600	103266244	76824720
316	7584	10187	57517056	103774969	77258208
317	7608	10422	57881664	108618084	79290576
318	7632	10497	58247424	110187009	80113104
319	7656	10548	58614336	111260304	80755488
320	7680	10570	58982400	111724900	81177600
321	7704	10633	59351616	113060689	81916632
322	7728	10647	59721984	113358609	82280016
323	7752	10746	60093504	115476516	83302992
324	7776	10811	60466176	116877721	84066336
325	7800	10979	60840000	120538441	85636200
326	7824	11004	61214976	121088016	86095296
327	7848	11021	61591104	121462441	86492808
328	7872	11029	61968384	121638841	86820288
329	7896	11199	62346816	125417601	88427304
330	7920	11325	62726400	128255625	89694000
331	7944	11475	63107136	131675625	91157400
332	7968	11600	63489024	134560000	92428800
333	7992	11657	63872064	135885649	93162744
334	8016	11716	64256256	137264656	93915456
335	8040	11719	64641600	137334961	94220760
336	8064	11772	65028096	138579984	94929408
337	8088	11833	65415744	140019889	95705304
338	8112	11910	65804544	141848100	96613920
339	8136	12068	66194496	145636624	98185248
340	8160	12086	66585600	146071396	98621760
341	8184	12177	66977856	148279329	99656568
342	8208	12270	67371264	150552900	100712160
343	8232	12299	67765824	151265401	101245368
344	8256	12382	68161536	153313924	102225792
345	8280	12495	68558400	156125025	103458600
346	8304	12625	68956416	159390625	104838000
347	8328	12633	69355584	159592689	105207624

348	8352	12648	69755904	159971904	105636096
349	8376	12765	70157376	162945225	106919640
350	8400	12806	70560000	163993636	107570400
351	8424	12964	70963776	168065296	109208736
352	8448	13012	71368704	169312144	109925376
353	8472	13301	71774784	176916601	112686072
354	8496	13306	72182016	177049636	113047776
355	8520	13325	72590400	177555625	113529000
356	8544	13419	72999936	180069561	114651936
357	8568	13490	73410624	181980100	115582320
358	8592	13577	73822464	184334929	116653584
359	8616	13712	74235456	188018944	118142592
360	8640	13825	74649600	191130625	119448000
361	8664	13863	75064896	192182769	120109032
362	8688	13872	75481344	192432384	120519936
363	8712	13936	75898944	194212096	121410432
364	8736	13989	76317696	195692121	122207904
365	8760	14091	76737600	198556281	123437160
366	8784	14209	77158656	201895681	124811856
367	8808	14298	77580864	204432804	125936784
368	8832	14326	78004224	205234276	126527232
369	8856	14332	78428736	205406224	126924192
370	8880	14443	78854400	208600249	128253840
371	8904	14508	79281216	210482064	129179232
372	8928	14621	79709184	213773641	130536288
373	8952	14654	80138304	214739716	131182608
374	8976	14855	80568576	220671025	133338480
375	9000	14870	81000000	221116900	133830000
376	9024	14938	81432576	223143844	134800512
377	9048	14986	81866304	224580196	135593328
378	9072	15159	82301184	229795281	137522448
379	9096	15278	82737216	233417284	138968688
380	9120	15288	83174400	233722944	139426560
381	9144	15591	83612736	243079281	142564104
382	9168	15707	84052224	246709849	144001776
383	9192	15732	84492864	247495824	144608544
384	9216	15810	84934656	249956100	145704960
385	9240	15853	85377600	251317609	146481720
386	9264	16002	85821696	256064004	148242528
387	9288	16087	86266944	258791569	149416056
388	9312	16342	86713344	267060964	152176704

389	9336	16344	87160896	267126336	152587584
390	9360	16513	87609600	272679169	154561680
391	9384	16568	88059456	274498624	155474112
392	9408	16724	88510464	279692176	157339392
393	9432	16730	88962624	279892900	157797360
394	9456	16911	89415936	285981921	159910416
395	9480	17037	89870400	290259369	161510760
396	9504	17037	90326016	290259369	161919648
397	9528	17136	90782784	293642496	163271808
398	9552	17320	91240704	299982400	165440640
399	9576	17354	91699776	301161316	166181904
400	9600	17610	92160000	310112100	169056000
401	9624	17746	92621376	314920516	170787504
402	9648	17786	93083904	316341796	171599328
403	9672	17925	93547584	321305625	173370600
404	9696	17969	94012416	322884961	174227424
405	9720	18044	94478400	325585936	175387680
406	9744	18107	94945536	327863449	176434608
407	9768	18120	95413824	328334400	176996160
408	9792	18352	95883264	336795904	179702784
409	9816	18507	96353856	342509049	181664712
410	9840	18668	96825600	348494224	183693120
411	9864	18802	97298496	353515204	185462928
412	9888	18812	97772544	353891344	186013056
413	9912	18929	98247744	358307041	187624248
414	9936	19062	98724096	363359844	189400032
415	9960	19193	99201600	368371249	191162280
416	9984	19283	99680256	371834089	192521472
417	10008	19341	100160064	374074281	193564728
418	10032	19435	100641024	377719225	194971920
419	10056	19511	101123136	380679121	196202616
420	10080	19532	101606400	381499024	196882560
421	10104	19592	102090816	383846464	197957568
422	10128	19776	102576384	391090176	200291328
423	10152	19789	103063104	391604521	200897928
424	10176	19842	103550976	393704964	201912192
425	10200	19862	104040000	394499044	202592400
426	10224	19900	104530176	396010000	203457600
427	10248	19971	105021504	398840841	204662808
428	10272	20052	105513984	402082704	205974144
429	10296	20137	106007616	405498769	207330552

430	10320	20223	106502400	408969729	208701360
431	10344	20246	106998336	409900516	209424624
432	10368	20268	107495424	410791824	210138624
433	10392	20298	107993664	412008804	210936816
434	10416	20374	108493056	415099876	212215584
435	10440	20398	108993600	416078404	212955120
436	10464	20442	109495296	417875364	213905088
437	10488	20528	109998144	421398784	215297664
438	10512	20533	110502144	421604089	215842896
439	10536	20536	111007296	421727296	216367296
440	10560	20577	111513600	423412929	217293120
441	10584	20589	112021056	423906921	217913976
442	10608	20639	112529664	425968321	218938512
443	10632	20703	113039424	428614209	220114296
444	10656	20743	113550336	430272049	221037408
445	10680	20775	114062400	431600625	221877000
446	10704	20795	114575616	432432025	222589680
447	10728	20800	115089984	432640000	223142400
448	10752	20841	115605504	434347281	224082432
449	10776	20880	116122176	435974400	225002880
450	10800	20957	116640000	439195849	226335600
451	10824	21004	117158976	441168016	227347296
452	10848	21010	117679104	441420100	227916480
453	10872	21019	118200384	441798361	228518568
454	10896	21072	118722816	444029184	229600512
455	10920	21091	119246400	444830281	230313720
456	10944	21138	119771136	446815044	231334272
457	10968	21174	120297024	448338276	232236432
458	10992	21178	120824064	448507684	232788576
459	11016	21223	121352256	450415729	233792568
460	11040	21242	121881600	451222564	234511680
461	11064	21300	122412096	453690000	235663200
462	11088	21307	122943744	453988249	236252016
463	11112	21384	123476544	457275456	237619008
464	11136	21430	124010496	459244900	238644480
465	11160	21456	124545600	460359936	239448960
466	11184	21508	125081856	462594064	240545472
467	11208	21584	125619264	465869056	241913472
468	11232	21594	126157824	466300836	242543808
469	11256	21648	126697536	468635904	243669888
470	11280	21668	127238400	469502224	244415040

471	11304	21734	127780416	472366756	245681136
472	11328	21734	128323584	472366756	246202752
473	11352	21768	128867904	473845824	247110336
474	11376	21830	129413376	476548900	248338080
475	11400	21840	129960000	476985600	248976000
476	11424	21883	130507776	478865689	249991392
477	11448	21968	131056704	482593024	251489664
478	11472	22002	131606784	484088004	252406944
479	11496	22027	132158016	485188729	253222392
480	11520	22027	132710400	485188729	253751040
481	11544	22029	133263936	485276841	254302776
482	11568	22056	133818624	486467136	255143808
483	11592	22077	134374464	487393929	255916584
484	11616	22158	134931456	490976964	257387328
485	11640	22180	135489600	491952400	258175200
486	11664	22235	136048896	494395225	259349040
487	11688	22254	136609344	495240516	260104752
488	11712	22353	137170944	499656609	261798336
489	11736	22382	137733696	500953924	262675152
490	11760	22429	138297600	503060041	263765040
491	11784	22517	138862656	507015289	265340328
492	11808	22517	139428864	507015289	265880736
493	11832	22517	139996224	507015289	266421144
494	11856	22599	140564736	510714801	267933744
495	11880	22636	141134400	512388496	268915680
496	11904	22636	141705216	512388496	269458944
497	11928	22636	142277184	512388496	270002208
498	11952	22636	142850304	512388496	270545472
499	11976	22636	143424576	512388496	271088736
500	12000	22636	144000000	512388496	271632000
501	12024	22636	144576576	512388496	272175264
502	12048	22636	145154304	512388496	272718528
503	12072	22636	145733184	512388496	273261792
504	12096	22970	146313216	527620900	277845120
505	12120	23007	146894400	529322049	278844840
506	12144	23032	147476736	530473024	279700608
507	12168	23086	148060224	532963396	280910448
508	12192	23097	148644864	533471409	281598624
509	12216	23102	149230656	533702404	282214032
510	12240	23125	149817600	534765625	283050000
511	12264	23158	150405696	536292964	284009712

512	12288	23189	150994944	537729721	284946432
513	12312	23225	151585344	539400625	285946200
514	12336	23248	152176896	540469504	286787328
515	12360	23250	152769600	540562500	287370000
516	12384	23274	153363456	541679076	288225216
517	12408	23296	153958464	542703616	289056768
518	12432	23322	154554624	543915684	289939104
519	12456	23349	155151936	545175801	290835144
520	12480	23382	155750400	546717924	291807360
521	12504	23387	156350016	546951769	292431048
522	12528	23389	156950784	547045321	293017392
523	12552	23402	157552704	547653604	293741904
524	12576	23416	158155776	548309056	294479616
525	12600	23434	158760000	549152356	295268400
526	12624	23456	159365376	550183936	296108544
527	12648	23485	159971904	551545225	297038280
528	12672	23494	160579584	551968036	297715968
529	12696	23495	161188416	552015025	298292520
530	12720	23507	161798400	552579049	299009040
531	12744	23516	162409536	553002256	299687904
532	12768	23526	163021824	553472676	300379968
533	12792	23542	163635264	554225764	301149264
534	12816	23558	164249856	554979364	301919328
535	12840	23569	164865600	555497761	302625960
536	12864	23570	165482496	555544900	303204480
537	12888	23573	166100544	555686329	303808824
538	12912	23587	166719744	556346569	304555344
539	12936	23589	167340096	556440921	305147304
540	12960	23591	167961600	556535281	305739360
541	12984	23607	168584256	557290449	306513288
542	13008	23607	169208064	557290449	307079856
543	13032	23608	169833024	557337664	307659456
544	13056	23613	170459136	557573769	308291328
545	13080	23616	171086400	557715456	308897280
546	13104	23619	171714816	557857161	309503376
547	13128	23634	172344384	558565956	310267152
548	13152	23638	172975104	558755044	310886976
549	13176	23639	173606976	558802321	311467464
550	13200	23640	174240000	558849600	312048000
551	13224	23646	174874176	559133316	312694704
552	13248	23647	175509504	559180609	313275456

	553	13272	23647	176145984	559180609	313842984
	554	13296	23657	176783616	559653649	314543472
	555	13320	23675	177422400	560505625	315351000
	556	13344	23675	178062336	560505625	315919200
	557	13368	23676	178703424	560552976	316500768
	558	13392	23693	179345664	561358249	317296656
	559	13416	23699	179989056	561642601	317945784
	560	13440	23728	180633600	563017984	318904320
	561	13464	23728	181279296	563017984	319473792
	562	13488	23728	181926144	563017984	320043264
	563	13512	23728	182574144	563017984	320612736
	564	13536	23742	183223296	563682564	321371712
	565	13560	23742	183873600	563682564	321941520
	566	13584	23748	184525056	563967504	322592832
	567	13608	23758	185177664	564442564	323298864
	568	13632	23763	185831424	564680169	323937216
	569	13656	23764	186486336	564727696	324521184
	570	13680	23764	187142400	564727696	325091520
	571	13704	23767	187799616	564870289	325702968
	572	13728	23771	188457984	565060441	326328288
	573	13752	23771	189117504	565060441	326898792
	574	13776	23775	189778176	565250625	327524400
	575	13800	23777	190440000	565345729	328122600
	576	13824	23784	191102976	565678656	328790016
	577	13848	23786	191767104	565773796	329388528
$\sum ii$		3397992	5640558	3,3307E+10	1,0506E+11	58670493216

$$y = ax + b$$

$$\begin{vmatrix} \sum x_{ii}^2 & \sum x_{ii} \\ \sum x_{ii} & n \end{vmatrix} * \begin{pmatrix} a \\ b \end{pmatrix} = \begin{vmatrix} \sum y_{ii}x_{ii} \\ \sum y_{ii} \end{vmatrix}$$

$$\begin{pmatrix} 3.3307 \times 10^{10} & 3397992 \\ 3397992 & 577 \end{pmatrix} * \begin{pmatrix} a \\ b \end{pmatrix} = \begin{pmatrix} 58670493216 \\ 5640558 \end{pmatrix}$$

$$a = 1{,}9143257$$
$$b = -1497{,}929717$$

$$y = 1{,}9143257x - 1497{,}929717$$

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

$$r = \frac{577(58670493216) - (3397992)(5640558)}{\sqrt{[577(3.3307 \times 10^{10}) - (3397992)^2][577(1{,}0506 \times 10^{11}) - (5640558)^2]}} = 0{,}983869$$

Grafica de los contagios por días, por el tiempo

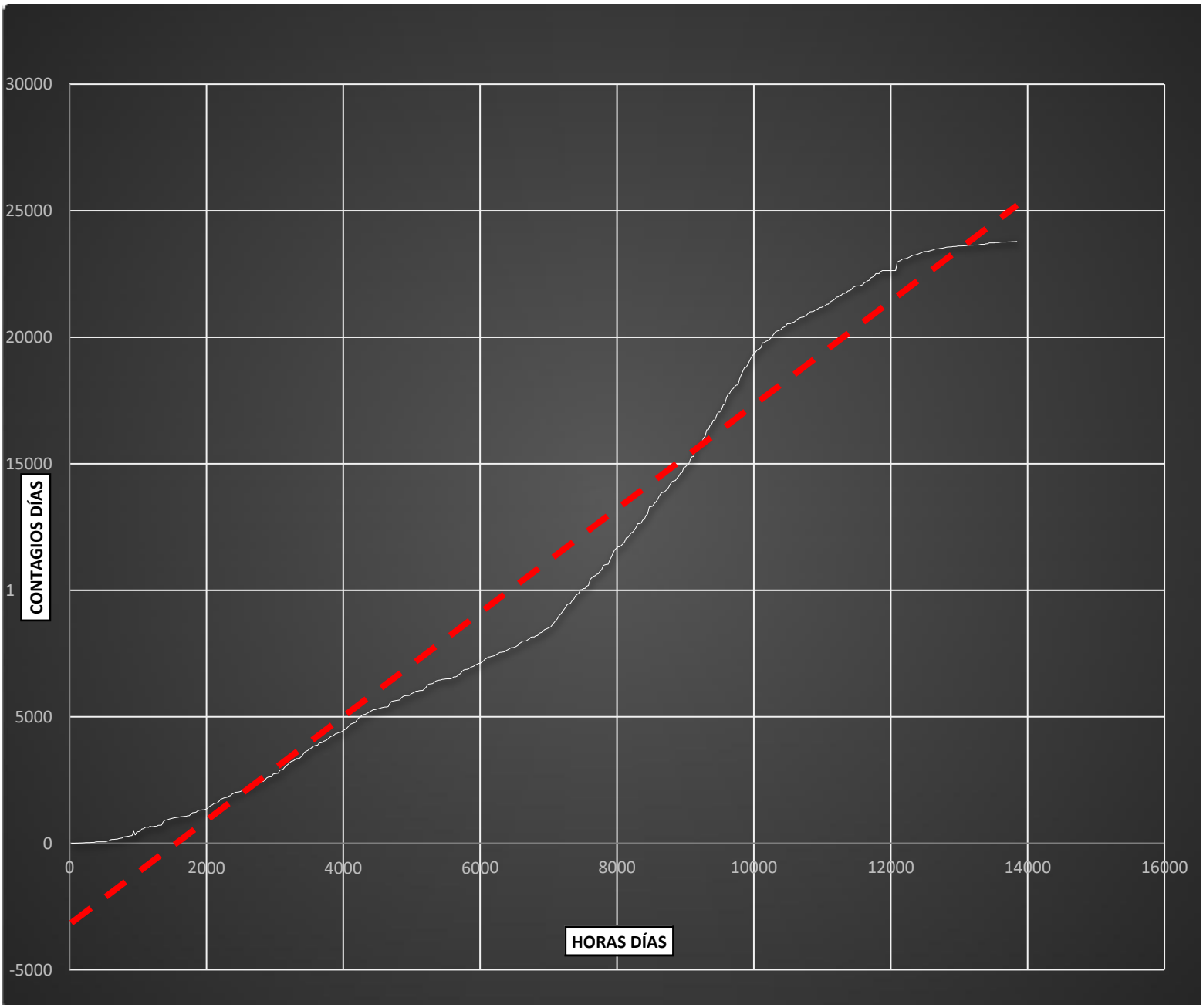


Tabla de Datos de contagios por semanas en la Provincia del Oro

Método por Mínimos Cuadrados

Tiempo = t

Contagios por semanas = s

N°	t	s	t^2	s^2	$t * s$
1	504	13	254016	169	6552
2	1680	129	2822400	16641	216720
3	2856	340	8156736	115600	971040
4	4032	731	16257024	534361	2947392
5	5208	1220	27123264	1488400	6353760
6	6384	2383	40755456	5678689	15213072
7	7560	3960	57153600	15681600	29937600
8	8232	4250	67765824	18062500	34986000
9	9912	6252	98247744	39087504	61969824
10	11088	7180	122943744	51552400	79611840
11	12264	7900	150405696	62410000	96885600
12	13440	9105	180633600	82901025	122371200
13	14616	10574	213627456	111809476	154549584
14	15792	12430	249387264	154504900	196294560
15	16968	13896	287913024	193098816	235787328
16	18144	15177	329204736	230341329	275371488
17	19320	16540	373262400	273571600	319552800
18	20496	18435	420086016	339849225	377843760
19	21672	20290	469675584	411684100	439724880
20	22848	22759	522031104	517972081	519997632
21	24024	24872	577152576	618616384	597524928
22	25200	27094	635040000	734084836	682768800
23	26376	28795	695693376	829152025	759496920
24	27552	30600	759112704	936360000	843091200
25	28728	32667	825297984	1067132889	938457576
26	29904	35169	894249216	1236858561	1051693776
27	31080	36776	965966400	1352474176	1142998080
28	32256	37746	1040449536	1424760516	1217534976
29	33432	39552	1117698624	1564360704	1322302464
30	34608	40975	1197713664	1678950625	1418062800
31	35784	42181	1280494656	1779236761	1509404904
32	36960	44069	1366041600	1942076761	1628790240
33	38136	45276	1454354496	2049916176	1726645536
34	39312	45946	1545433344	2111034916	1806229152

35	40488	47908	1639278144	2295176464	1939699104
36	41664	49460	1735888896	2446291600	2060701440
37	42840	51309	1835265600	2632613481	2198077560
38	44016	52598	1937408256	2766549604	2315153568
39	45192	53953	2042316864	2910926209	2438243976
40	46368	55679	2149991424	3100151041	2581723872
41	47544	57246	2260431936	3277104516	2721703824
42	48720	59038	2373638400	3485485444	2876331360
43	49896	62152	2489610816	3862871104	3101136192
44	51072	66157	2608349184	4376748649	3378770304
45	52248	69649	2729853504	4850983201	3639020952
46	53424	73019	2854123776	5331774361	3900967056
47	54600	76237	2981160000	5812080169	4162540200
48	55776	80691	3110962176	6511037481	4500621216
49	56952	84116	3243530304	7075501456	4790574432
50	58128	87847	3378864384	7717095409	5106370416
51	59304	92133	3516964416	8488489689	5463855432
52	60480	96275	3657830400	9268875625	5822712000
53	61656	99688	3801462336	9937697344	6146363328
54	62832	103432	3947860224	1,0698E+10	6498839424
55	64008	108565	4097024064	1,1786E+10	6949028520
56	65184	113709	4248953856	1,293E+10	7412007456
57	66360	118895	4403649600	1,4136E+10	7889872200
58	67536	124434	4561111296	1,5484E+10	8403774624
59	68712	129368	4721338944	1,6736E+10	8889134016
60	69888	134754	4884332544	1,8159E+10	9417687552
61	71064	138293	5050092096	1,9125E+10	9827653752
62	72240	141195	5218617600	1,9936E+10	10199926800
63	73416	143388	5389909056	2,056E+10	10526973408
64	74592	145044	5563966464	2,1038E+10	10819122048
65	75768	146783	5740789824	2,1545E+10	11121454344
66	76944	148346	5920379136	2,2007E+10	11414334624
67	78120	150263	6102734400	2,2579E+10	11738545560
68	79296	152222	6287855616	2,3172E+10	12070595712
69	80472	153992	6475742784	2,3714E+10	12392044224
70	81648	155639	6666395904	2,4223E+10	12707613072
71	82824	157851	6859814976	2,4917E+10	13073851224
72	84000	158452	7056000000	2,5107E+10	13309968000
73	85176	161419	7254950976	2,6056E+10	13749024744
74	86352	162640	7456667904	2,6452E+10	14044289280
75	87528	163647	7661150784	2,678E+10	14323694616

76	88704	164387	7868399616	2,7023E+10	14581784448
77	89880	164925	8078414400	2,72E+10	14823459000
78	91056	165231	8291195136	2,7301E+10	15045273936
79	92232	165463	8506741824	2,7378E+10	15260983416
80	93408	165722	8725054464	2,7464E+10	15479760576
81	94584	166144	8946133056	2,7604E+10	15714564096
82	95760	166358	9169977600	2,7675E+10	15930442080
83	55248	95122	3052341504	9048194884	5255300256
$\sum ii$	4001568	6366120	2,5655E+11	7,6582E+11	4,37631E+11

$$y = ax + b$$

$$\begin{vmatrix} \sum x_{ii}^2 & \sum x_{ii} \\ \sum x_{ii} & n \end{vmatrix} * \begin{matrix} a \\ b \end{matrix} = \begin{vmatrix} \sum y_{ii}x_{ii} \\ \sum y_{ii} \end{vmatrix}$$

$$\begin{matrix} 2{,}5655 \times 10^{11} & 4001568 \\ 4001568 & 83 \end{matrix} * \begin{matrix} a \\ b \end{matrix} = \begin{matrix} 4{,}37631 \times 10^{11} \\ 6366120 \end{matrix}$$

$$a = 2{,}054289$$
$$b = -22340{,}429133$$

$$y = 2{,}054289x - 22340{,}429133$$

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

$$r = \frac{83(4{,}37631 \times 10^{11}) - (4001568)(6366120)}{\sqrt{83(2{,}5655 \times 10^{11}) - (4001568)^2}[83(7{,}6582 \times 10^{11}) - (6366120)^2]} = 0{,}983667$$

Grafica de los contagios por semanas, por el tiempo

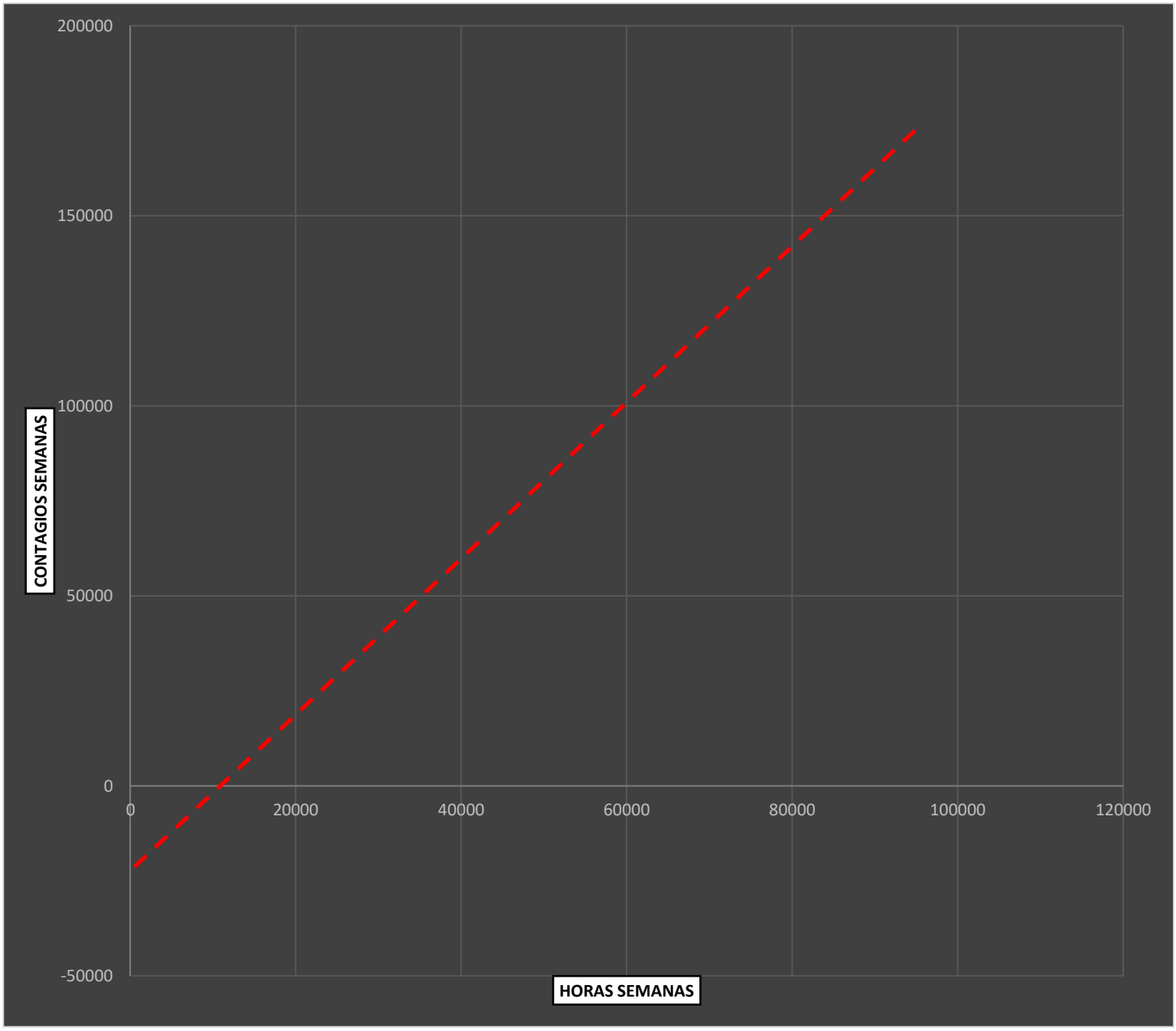


Tabla de Datos de contagios por meses en la Provincia del Oro

Método por Mínimos Cuadrados

Tiempo = t

Contagios por mese = m

N°	t	m	t^2	m^2	$t * m$
1	2880	206	8294400	42436	593280
2	19824	5734	392990976	32878756	113670816
3	42120	25507	1774094400	650607049	1074354840
4	63720	47553	4060238400	2261287809	3030077160
5	88536	78783	7838623296	6206761089	6975131688
6	111600	118934	1,2455E+10	1,4145E+10	13273034400
7	129960	151245	1,689E+10	2,2875E+10	19655800200
8	156984	186103	2,4644E+10	3,4634E+10	29215193352
9	173880	205785	3,0234E+10	4,2347E+10	35781895800
10	202368	242587	4,0953E+10	5,8848E+10	49091846016
11	225432	289941	5,082E+10	8,4066E+10	65361979512
12	223440	322596	4,9925E+10	1,0407E+11	72080850240
13	269328	429574	7,2538E+10	1,8453E+11	1,15696E+11
14	282600	501830	7,9863E+10	2,5183E+11	1,41817E+11
15	314712	609658	9,9044E+10	3,7168E+11	1,91867E+11
16	326520	631549	1,0662E+11	3,9885E+11	2,06213E+11
17	360096	687612	1,2967E+11	4,7281E+11	2,47606E+11
18	383160	719121	1,4681E+11	5,1714E+11	2,75538E+11
19	392760	708585	1,5426E+11	5,0209E+11	2,78304E+11
20	232152	403896	5,3895E+10	1,6313E+11	93765264192
$\sum ii$	4002072	6366799	1,0827E+12	3,2322E+12	1,84646E+12

$$y = ax + b$$

$$\begin{vmatrix} \sum x_{ii}^2 & \sum x_{ii} \\ \sum x_{ii} & n \end{vmatrix} * \begin{vmatrix} a \\ b \end{vmatrix} = \begin{vmatrix} \sum y_{ii} x_{ii} \\ \sum y_{ii} \end{vmatrix}$$

$$\begin{vmatrix} 1{,}0827 \times 10^{12} & 4002072 \\ 4002072 & 20 \end{vmatrix} * \begin{vmatrix} a \\ b \end{vmatrix} = \begin{vmatrix} 1{,}84646 \times 10^{12} \\ 6366799 \end{vmatrix}$$

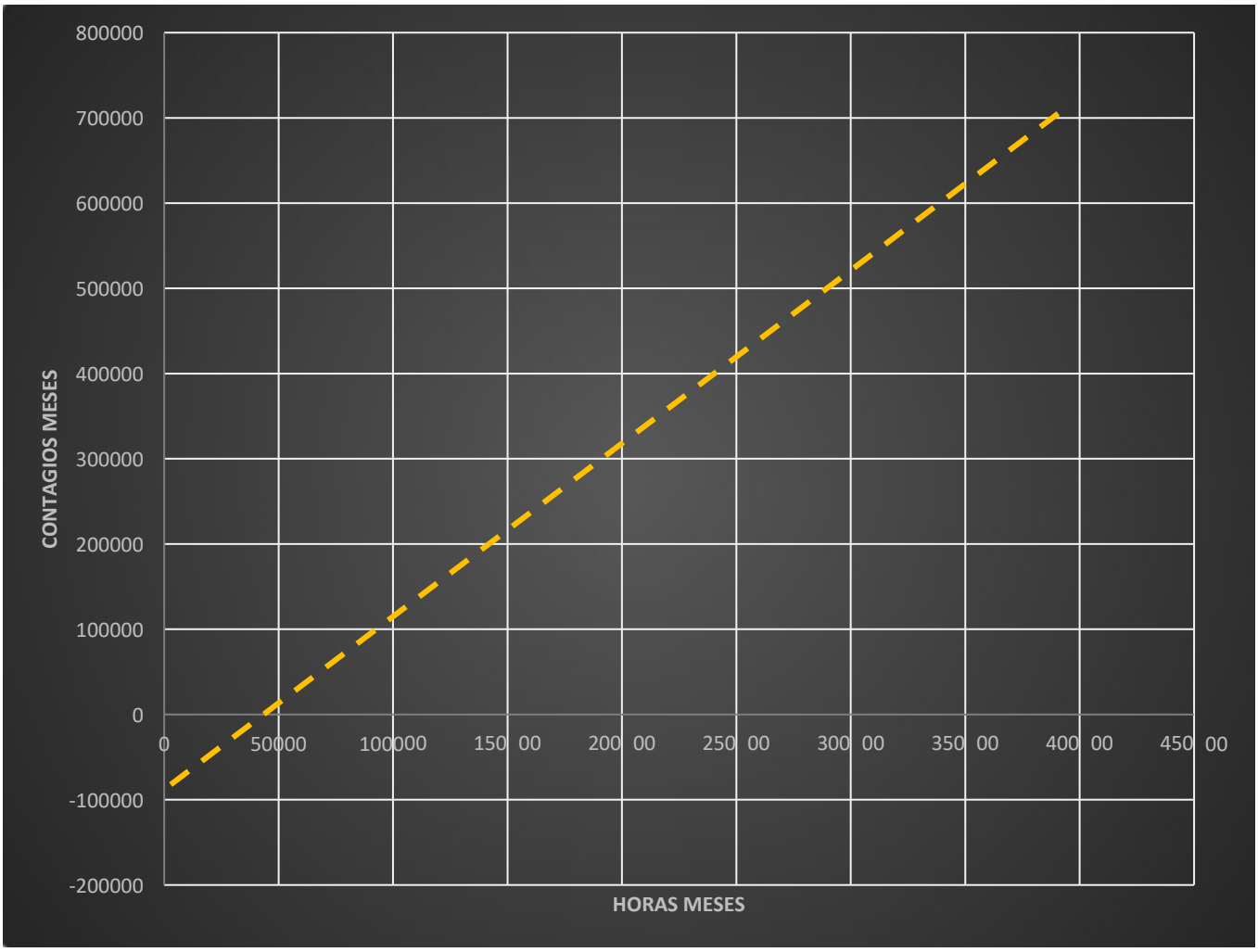
$$a = 2{,}030860$$
$$b = -88042{,}511225$$

$$y = 2{,}030860x - 88042{,}511225$$

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

$$r = \frac{20(1{,}84646 \times 10^{11}) - (4002072)(6366799)}{\sqrt{[20(1{,}0827 \times 10^{12}) - (4002072)^2][20(3{,}2322 \times 10^{12}) - (6366799)^2]}} = 0{,}982089$$

Grafica de los contagios por meses, por el tiempo



Conclusión:

El método por mínimos cuadrados es un método de interpolación que para este caso no cumple con ir interpolando los puntos por ende la ecuación no es consistente para este ejercicio.

INTERPOLACIÓN SEGÚN LOS DATOS OBTENIDOS EN MESES MEDIANTE LA UTILIZACIÓN DEL MÉTODO DE NEWTON

mediante la consulta de la base de datos del ministerio de salud se obtuvo el número de contagios acumulados de COVID 19 en la provincia del oro, la tabla mostrada a continuación detalla los contagios en los diferentes meses a partir de marzo 2020 hasta el 15 de enero del 2022

AÑO	TIEMPO (MESES)	NUMERO DE CONTAGIOS ACUMULADOS
2020	MARZO	34
	ABRIL	474
	MAYO	1094
	JULIO	3181
	SEPTIEMBRE	5523
	NOVIEMBRE	7367
2021	ENERO	10497
	MARZO	14986
	MAYO	20533
	JULIO	22636
	SEPTIEMBRE	23728
	OCTUBRE	23786
	DICIEMBRE	25882
2022	ENERO	34071

Tabla 1.- Datos de casos acumulados de COVID mensualmente

Fuente: (Ministerio de salud publica, 2020)

Meses xi	Contagios Acumulados yi	F[1]	F[2]	F[3]	F[4]	F[5]	F[6]	F[7]	F[8]	F[9]	F[10]	F[11]	F[12]	F[13]	F[14]
1	34	34													
2	474	474	440												
3	1094	1094	620	90											
5	3181	3181	1043.50	141.166666	12.791666										
7	5523	5523	1171	31.875	-21.85833	-5.775									
9	7367	7367	922	-62.250	-15.6875	0.8814761	0.830684								
11	10497	10497	1565	160.75	37.166666	6.6067708	0.636135	-0.019593							
13	14986	14986	2244.50	169.875	1.5208333	-4.455729	-1.10625	-0.158398	-0.011567						
15	20533	20533	2773.50	132.25	-6.270833	-0.973958	0.348177	0.121202	0.021507	0.002362					
17	22636	22363	1051.50	-430.50	-93.79166	-10.94010	-0.99661	-0.1120659	-0.016662	-0.002544	-0.000306				
19	23728	23728	546	-126.375	50.687500	18.059895	2.90	0.324717	0.031198	0.002991	0.000325	0.000035			
20	23786	23786	58	-162.66666	-7.258333	-8.277976	-2.92643	-0.529675	-0.065722	-0.006461	-0.000556	-0.000048	-0.0000044		
21	25882	25882	2096	1019	295.41166	50.445833	7.340476	1.026690	0.129697	0.013958	0.001276	0.000101	-0.0000079	0.000000061	
22	34071	34071	8189	3046.50	675.83333	76.083333	3.6625	-0.408664	-0.130486	-0.020014	-0.002264	-0.000208	-0.000016	-0.000001212	-0.0000000871

Tabla 2.- Tabla de datos en meses, para la obtención del polinomio de orden 14

Fuente: (Grupo de trabajo)

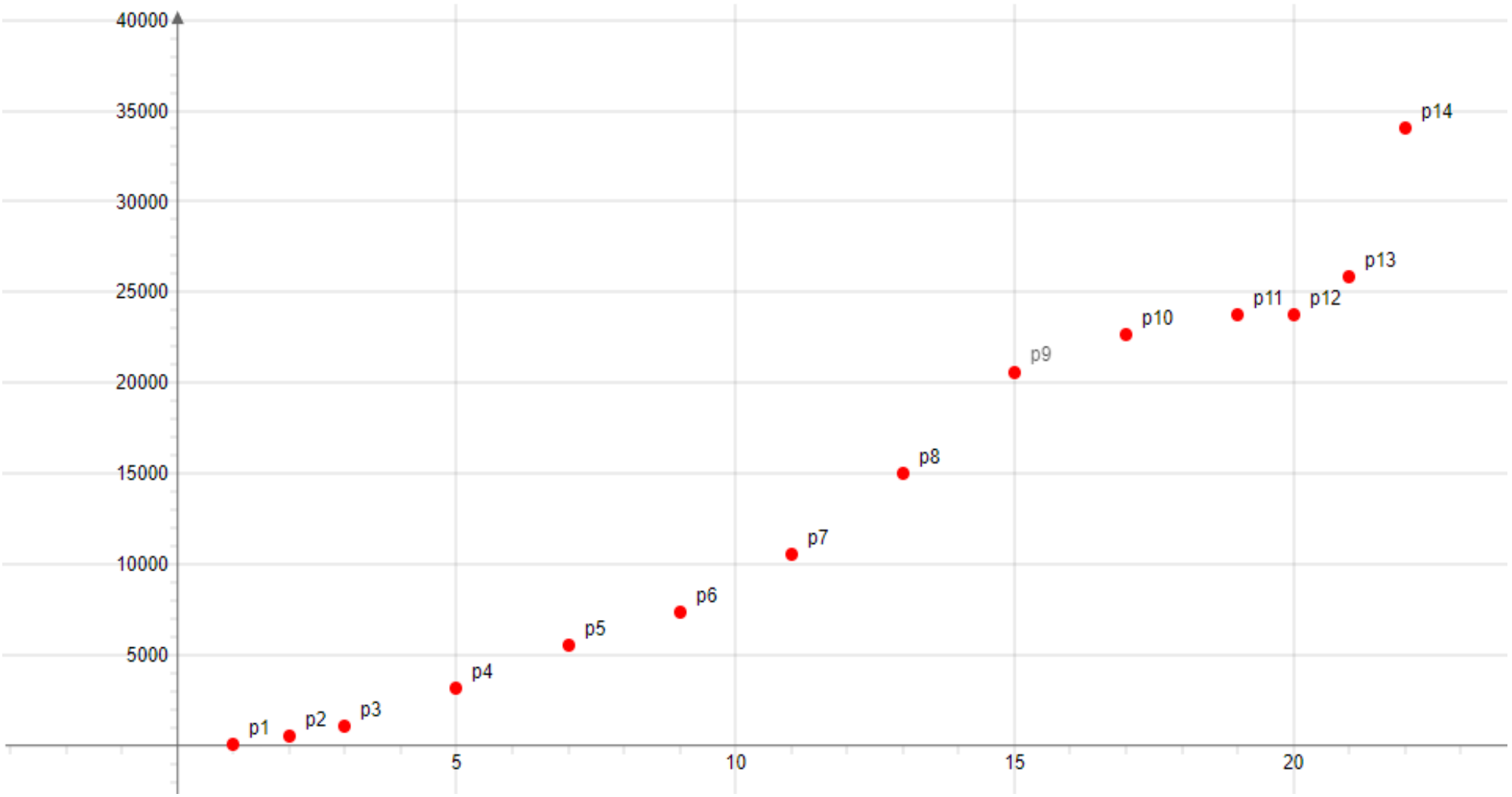


Figura 1.- Diagrama de dispersión correspondiente a los 14 datos mostrados en tabla

Fuente: (Grupo de trabajo)

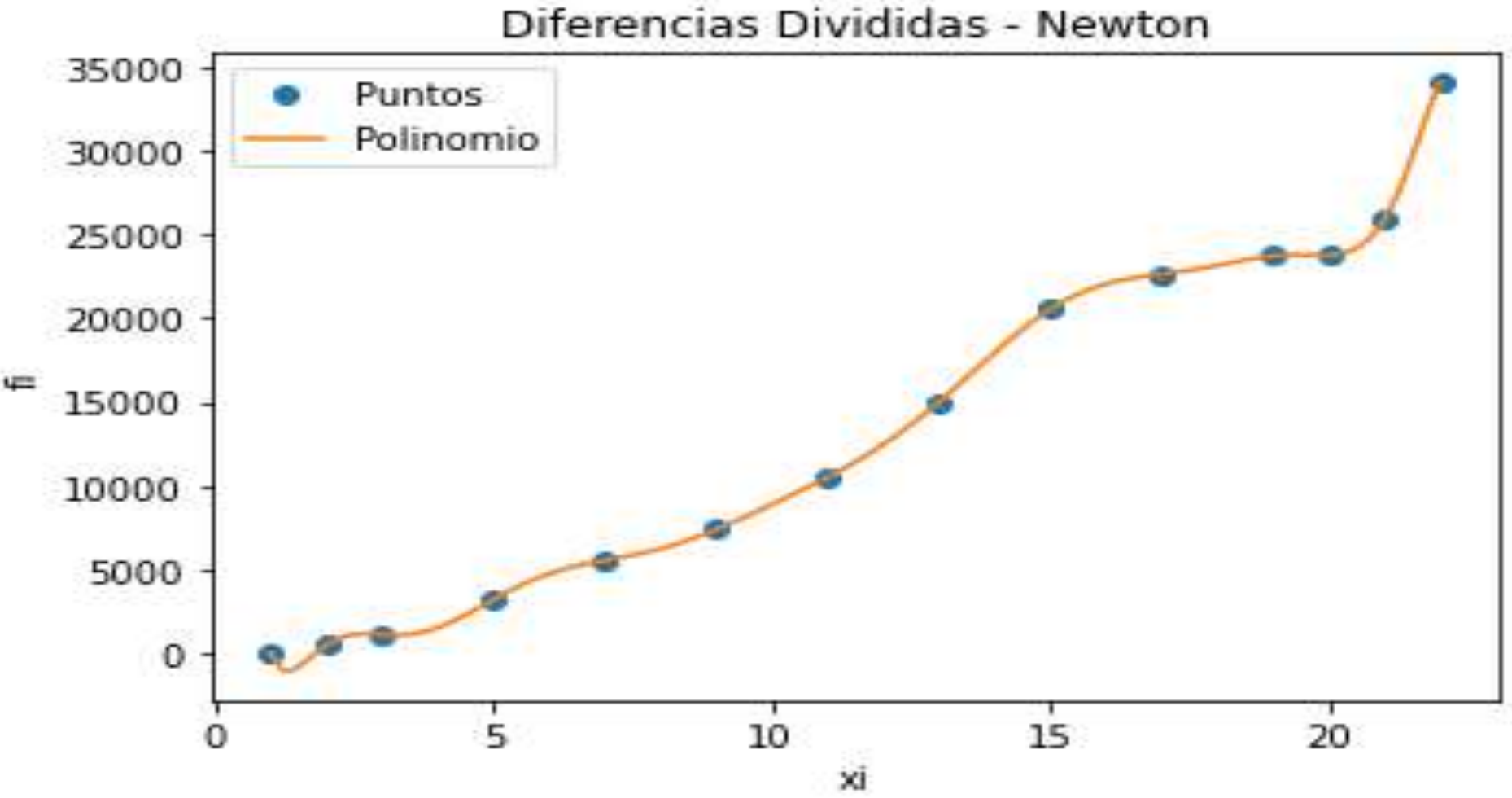


Figura 2.- Interpolación en meses realizada en Python mediante el método de NEWTHON

Fuente: (Grupo de trabajo)

OBTENCION DE POLINOMIO

$$P(X) = 34 + 440(x-1) + 90(x-1)(x-2) + 12.79166(x-1)(x-2)(x-3) - 5.775(x-1)(x-2)(x-3) - 5.775(x-1)(x-2)(x-3)(x-5)$$
$$+ 0.832084(x-1)(x-2)(x-3)(x-5)(x-7) - 0.01959325(x-1)(x-2)(x-3)(x-5)(x-7)(x-9)$$
$$- 0.011567(x-1)(x-1)(x-7)(x-9)(x-11) + 0.002362(x-1)(x-2)(x-3)(x-5)(x-7)(x-9)(x-11)(x-13)$$
$$- 0.0003066(x-1)(x-2)(x-3)(x-5)(x-7)(x-9)(x-11)(x-13)(x.15)$$
$$+ 0.00003513(x-1)(x-2)(x-3)(x-5)(x-7)(x-9)(x-11)(x-13)(x-15)(x-17)$$
$$- 0.000004426(x-1)(x-2)(x-3)(x-5)(x-7)(x-9)(x-11)(x-13)(x-15)(x-17)(x-19)$$
$$+ 0.000000618129(x-1)(x-2)(x-3)(x-5)(x-7)(x-9)(x-11)(x-13)(x-15)(x-17)(x-19)(x-20)$$
$$- 0.000000087187(x-1)(x-2)(x-3)(x-5)(x-7)(x-9)(x-11)(x-13)(x-15)(x-17)(x-19)(x-20)(x-21)$$

POLINOMIO SIMPLIFICADO

$$P(x) = -8.71879311546851 * 10^{-8} * x^{13} + 1.30860039550958 * 10^{-5} * x^{12} - 0.000876474946514428 * x^{11} + 0.0345648952146118 * x^{10}$$
$$- 0.891779252544575 * x^{9} + 15.8184557416679 * x^{8} - 197.319596576394 * x^{7} + 1740.25287827015 * x^{6}$$
$$- 10758.1644878744 * x^{5} + 45557.4279349771 * x^{4} - 126837.951713028 * x^{3} + 216768.250509196 * x^{2}$$
$$- 200045.377635458 * \mathrm{x} + 73791.9217325846$$

INTERPOLACIÓN SEGÚN LOS DATOS OBTENIDOS EN SEMANAS MEDIANTE LA UTILIZACIÓN DEL MÉTODO DE NEWTON

Mediante la consulta en la base de datos del sistema de salud pública se obtuvo diferentes datos de contagios acumulados cada 8 semanas llegando a tabular la siguiente tabla, datos que corresponden del 15 de marzo del 2020 hasta el 15 de enero del 2022

AÑO	TIEMPO (SEMANAS)	FECHA	NUMERO DE CONTAGIOS ACUMULADOS
2020	8	15 MARZO AL 15 DE MAYO	839
	16	16 MAYO AL 16 DE JULIO	2496
	24	17 DE JULIO AL 17 DE SEPTIEMBRE	5162
	32	18 DE SEPTIEMBRE AL 18 NOVIEMBRE	6939
	40	19 DE NOVIEMBRE AL 19 DE ENERO	9584
2021	48	19 DE ENERO AL 19 DE MARZO	14091
	56	20 DE MARZO AL 20 DE MAYO	19971
	64	20 DE MAYO AL 20 DE JULIO	22353
	72	21 DE JULIO 21 DE SEPTIEMBRE	23646
	80	22 DE SEPTIEMBRE AL 22 DE NOVIEMBRE	24218
	87	23 DE NOVIEMBRE AL 15 DE ENERO	30477
2022			

Tabla 3.- Datos acumulados de COVID en el transcurso de 8 semanas

Fuente: (Ministerio de salud publica, 2020)

Semanas (xi)	Contagios Acumulados (yi)	F[1]	F[2]	F[3]	F[4]	F[5]	F[6]	F[7]	F[8]	F[9]	F[10]	F[11]
8	839	839										
16	2496	2496	207.125									
24	5162	5162	333.25	7.882812								
32	6939	6939	222.125	-6.94531	-0.617838							
40	9584	9584	330.625	6.78125	0.571940	0.037180						
48	14091	14091	563.375	14.546875	0.323567	-0.007761	-0.001123					
56	19971	19971	735	10.72656	-0.1591796	-0.015085	-0.000183	0.0000195927				
64	22353	22353	297.75	-27.328125	-1.585611	-0.044576	-0.000737	-0.0000115448	-0.0000005560			
72	23646	23646	161.625	-8.507812	0.784179	0.074055	0.002965	0.0000771470	0.0000015838	0.0000000334		
80	24218	24218	71.5	-5.632812	0.119791	-0.020762	-0.002370	-0.0001111719	-0.0000033628	-0.0000000773	-0.0000000015	
87	30477	30477	894.14285	54.84285	2.629376	0.080954	0.002608	0.0001059270	0.0000039473	0.0000001160	0.0000000027	0.0000000001

Tabla 4.- Tabla de datos en semanas, para la obtención del polinomio de orden 10

Fuente: (Grupo de trabajo)

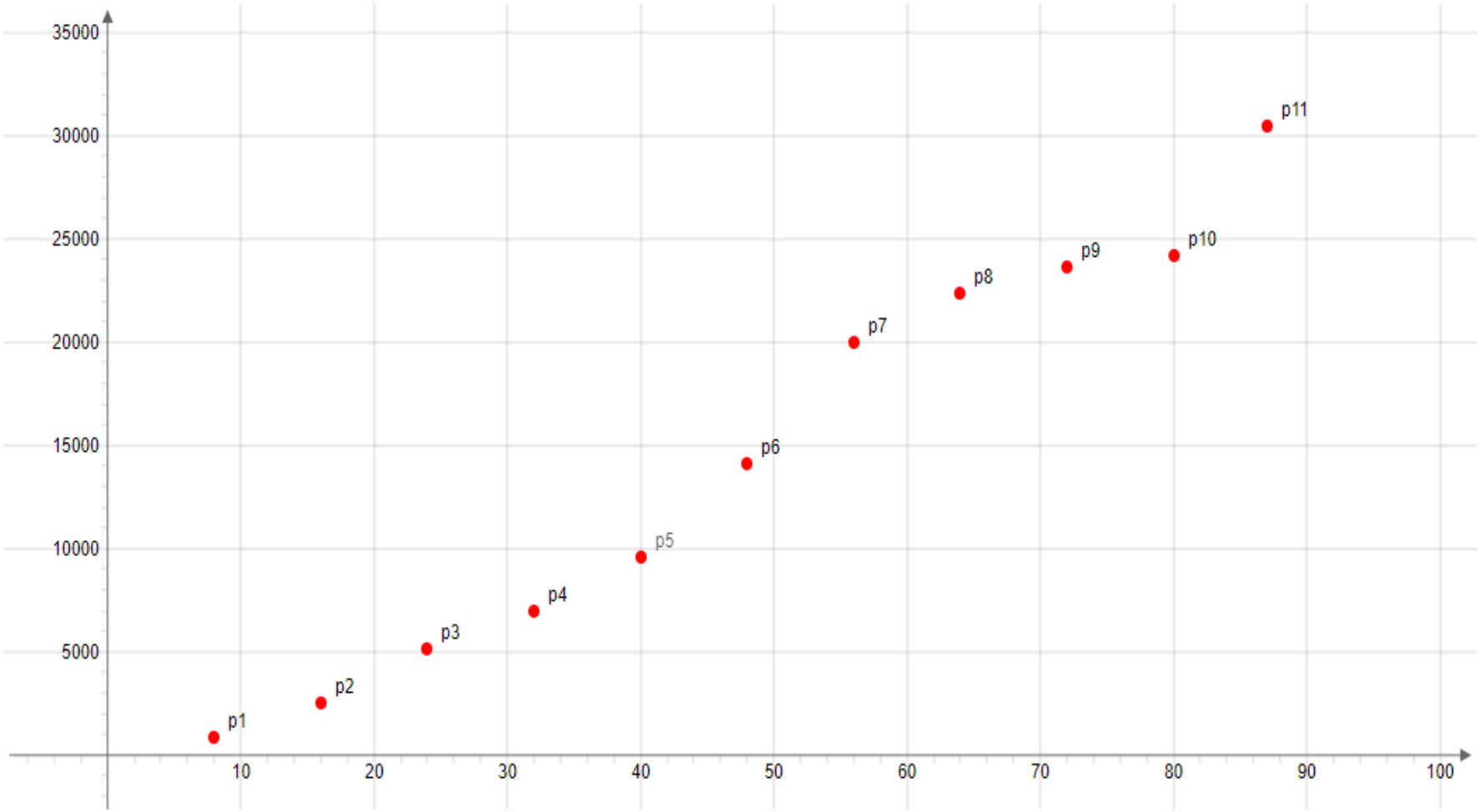


Figura 3.- Diagrama de dispersión correspondiente a los 11 datos mostrados en tabla

Fuente: (Grupo de trabajo)

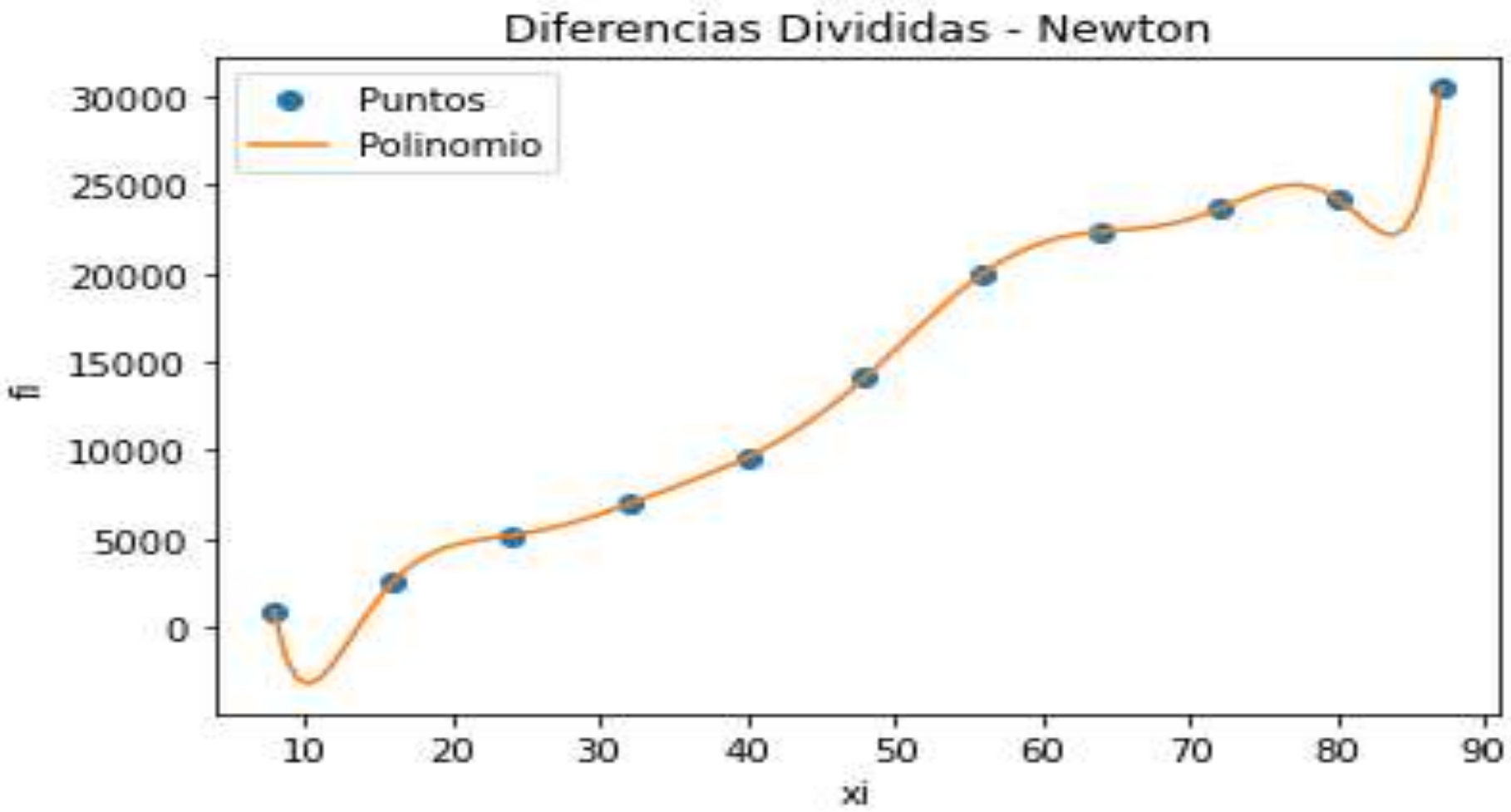


Figura 4.- Interpolación en semanas realizada en Python mediante el método de NEWTHON

Fuente: (Grupo de trabajo)

OBTENCION DE POLINOMIO

$$P(x) = 839 + 207.125(x-8) + 7.882812(x-8)(x-16) - 0.617838(x-8)(x-16) - 0.617838(x-8)(x-16)(x-24) + 0.0371058(x-8)(x-16)(x-24)(x-32) - 0.00112355(x-8)(x-16)(x-24)(x-32)(x-40) + 0.00001959(x-8)(x-16)(x-24)(x-32)(x-40)(x-48) - 0.0000005560(x-8)(x-16)(x-24)(x-32)(x-40)(x-48)(x-56) + 0.00000000334(x-8)(x-16)(x-24)(x-32)(x-40)(x-48)(x-56)(x-64) - 0.0000000015(x-8)(x-16)(x-24)(x-32)(x-40)(x-48)(x-56)(x-64)(x-72) + 0.0000000001(x-32)(x-40)(x-48)(x-56)(x-64)(x-72)(x-80)$$

POLINOMIO SIMPLIFICADO

$$\boldsymbol{P(x)} = \mathbf{5}.39332527019941 * 10^{-11} * x^{10} - 2.5268483749752 * 10^{-8} * x^{9} + 5.14334259060803 * 10^{-6} * x^{8} - 0.000597003717848317 * x^{7} + 0.0436069514671182 * x^{6} - 2.08627055457714 * x^{5} + 65.9051950482821 * x^{4} - 1349.1192485481 * x^{3} + 16977.3228415958 * x^{2} - 116775.980326703 * \mathrm{x} + 327400.22007673$$

INTERPOLACIÓN SEGÚN LOS DATOS OBTENIDOS EN DIAS MEDIANTE LA UTILIZACIÓN DEL MÉTODO DE NEWTON

Mediante la consulta de la base de datos el ministerio de salud pública se logró obtener el número de contagios acumulados de COVID 19 cada 60 días, comenzando el 13 de marzo del 2020 hasta el 15 de enero del 2022

AÑO	TIEMPO (DIAS)	FECHA	NUMERO DE CONTAGIOS ACUMULADOS
2020	60	13 DE MARZO AL 12 DE MAYO	710
	120	12 DE MAYO AL 11 DE JULIO	2329
	180	12 DE JULIO AL 9 DE SEPTIEMBRE	4779
	240	10 DE SEPTIEMBRE AL 8 DE NOVIEMBRE	6577
	300	9 DE NOVIEMBRE AL7 DE ENERO	8547
2021	360	8 DE ENERO AL 8 DE MARZO	13306
	420	9 DE MARZO AL 7 DE MAYO	19062
	480	8 DE MAYO AL 6 DE JULIO	21830
	540	7 DE JULIO AL 4 DE SEPTIEMBRE	23558
	600	5 DE SEPTIEMBRE AL 3 DE NOVIEMBRE	23919
	660	4 DE NOVIEMBRE AL 2 DE ENERO	26082
2022	673	DEL 3 DE ENERO AL 15 DE ENERO	30477

Tabla 5.- Datos acumulados de COVID en el transcurso de 60 días

Fuente: (Ministerio de salud publica, 2020)

Días **xi**	F[1] **yi**	F[2]	F[3]	F[4]	F[5]	F[6]	F[7]	F[8]	F[9]	F[10]
60	710									
120	2329	26.983333								
180	4779	40.833333	0.115416							
240	6577	29.966666	-0.090555	-0.001144						
300	8547	32.83333	0.023888	0.000635	0.00000741705					
360	13306	79.316666	0.387361	0.002019	0.00000576453	-0.000000005508				
420	19062	95.933333	0.138472	-0.00138	-0.00001417502	-0.000000066465	-0.00000000016932			
480	21830	46.133333	-0.41500	-0.003074	-0.000007050	0.000000023748	0.00000000025059	0.00000000000099980		
540	23558	28.80	-0.14444	0.001503	0.0000190747	0.000000087084	0.00000000017593	-0.00000000000017776	-0.00000000000000245	
600	23919	6.016666	-0.189861	-0.000252	-0.00000731417	-0.0000000879629	-0.00000000048624	-0.00000000000157661	-0.00000000000000291	-0.000000000000000000085370655
660	26082	36.04999	0.250277	0.002445	0.0000112397	0.00000006184	0.000000000416136	0.00000000000214852	0.00000000000000776	0.000000000000000001976842007
673	30477	338.076923	4.137355	0.029226	0.0001387612	0.00000050403	0.00000000141275	0.00000000000267189	0.00000000000000121	-0.000000000000000001329001010

Tabla 6.- Tabla de datos en días, para la obtención del polinomio de orden 11

Fuente: (Grupo de trabajo)

F[11]	F[12]
0.000000000000000000003437021	
-0.000000000000000000005978016	-0.000000000000000000000015359

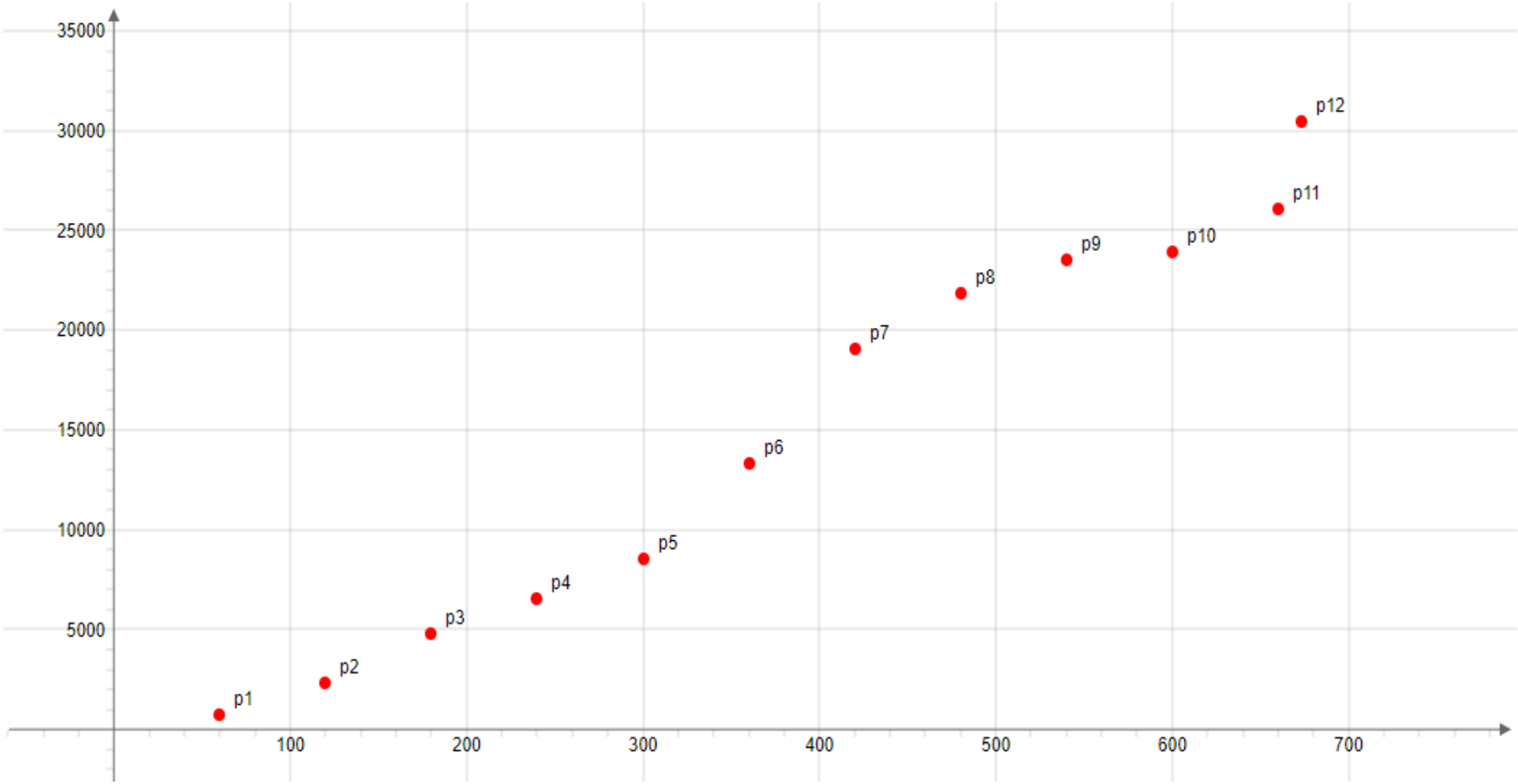


Figura 5.- Diagrama de dispersión correspondiente a los 12 datos mostrados en tabla

Fuente: (Grupo de trabajo)

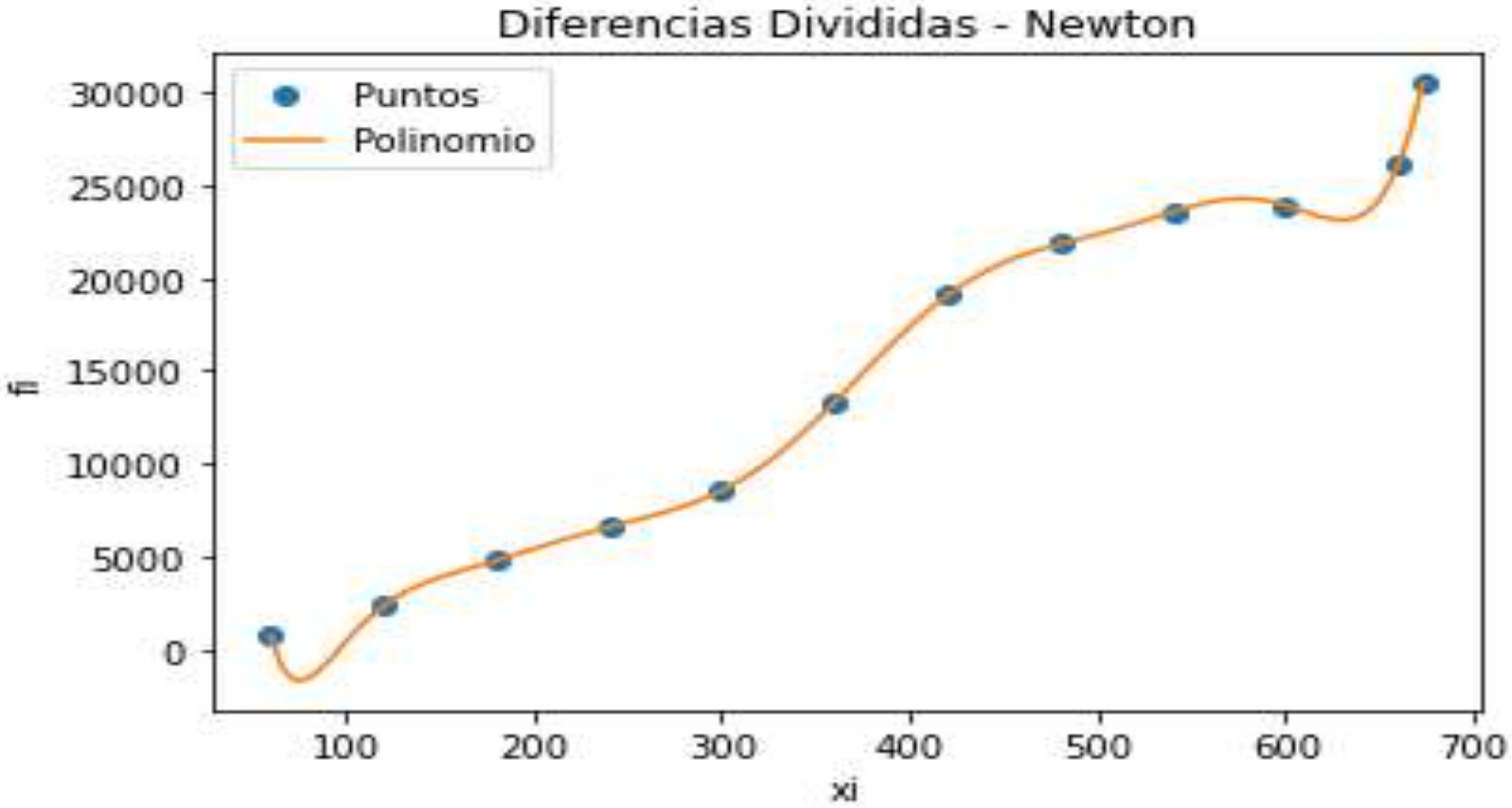


Figura 6.- Interpolación en días realizada en Python mediante el método de NEWTHON

Fuente: (Grupo de trabajo)

OBTENCION DEL POLINOMIO

$$P(x) = 710 + 26.98333(x-60) + 0.11541666(x-60)(x-120) - 0.0011442(x-60)(x-120)(x-180) + 0.00000741705(x-60)(x-120)(x-180)(x-240) - 0.000000005508401(x-60)(x-120)(x-180)(x-240)(x-300) - 0.0000000001693244(x-60)(x-120)(x-180)(x-240)(x-300)(x-360) + 0.00000000000099980335(x-60)(x-120)(x-180)(x-240)(x-300)(x-360)(x-420) - 0.00000000000000245326(x-60)(x-120)(x-180)(x-240)(x-300)(x-360)(x-420)(x-480) - 0.0000000000000000000853706(x-60)(x-120)(x-180)(xx-240)(x-300)(x-360)(x-420)(x-480)(x-540) + 0.0000000000000000000343702(x-60)(x-120)(x-180)(x-240)(x-300)(x-360)(x-420)(x-480)(x-540)(x-600) - 0.000000000000000000000153(x-60)(x-120)(x-180)(x-240)(x-300)(x-360)(x-420)(x-480)(x-540)(x-600)(x-660)$$

POLINOMIO SIMPLIFICADO

$$P(x) = -1.5358951725707 * 10^{-22} * x^{11} + 6.42584699367662 * 10^{-19} * x^{10} - 1.17865075753717 * 10^{-15} * x^{9} + 1.24701720813508 * 10^{-12} * x^{8} - 8.42577619333881 * 10^{-10} * x^{7} + 3.8035628181588 * 10^{-7} * x^{6} - 0.000116627574788979 * x^{5} + 0.0242027446352794 * x^{4} - 3.31763309361354 * x^{3} + 284.458514791599 * x^{2} - 13567.8957839006 * x + 268778.693191856$$

ANALISIS

Mediante la consulta a la base de datos del ministerio de salud publica de la republica del Ecuador. Se obtuvo la grafica numero 7 quien corresponde al numero de contagios acumulados de COVID 19 en la provincia del oro, cabe recalcar que estos datos que se observa en la figura son datos reales brindados por el ministerio de salud pública.

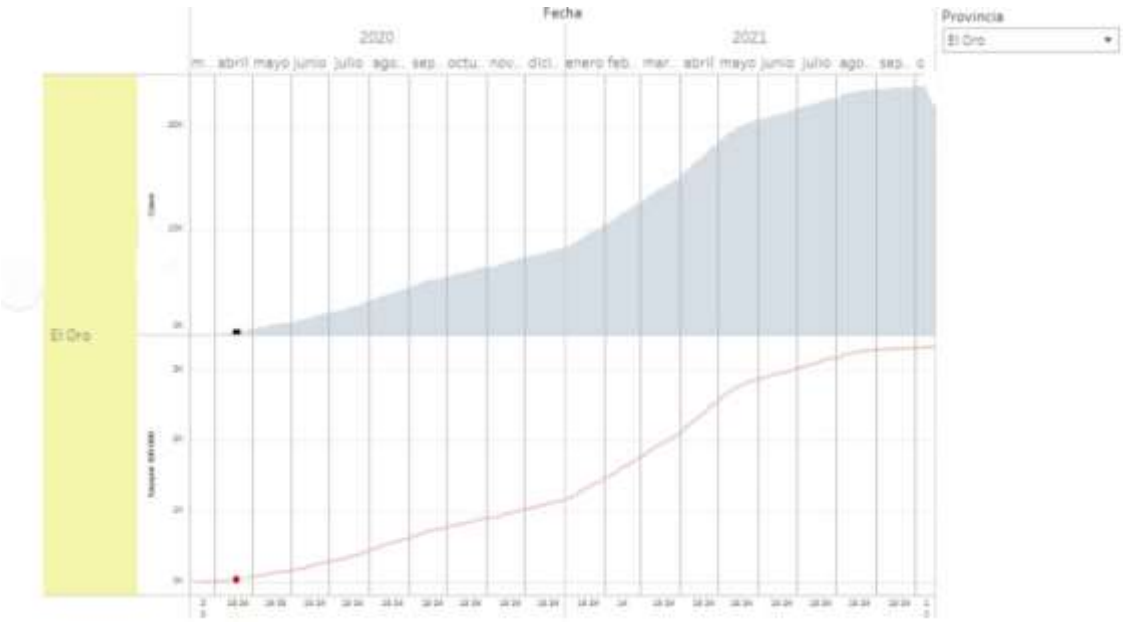


Figura. 7.-Numero de contagios acumulados desde marzo 2020 hasta el 15 de febrero del 2022 en la Provincia del Oro

Fuente: (Ministerio de salud publica, 2020)

Al realizar una comparación entre la figura numero 7 y la figura numero 8 la cual corresponde a la interpolación de newton se observa una variación considerable entre ambas gráficas, esto se debe al muestreo de datos que se utilizó para la interpolación, esta grafica que se obtuvo mediante procedimientos matemáticos brinda también un valor aproximado de contagios acumulados de COVID 19. Es necesario enfatizar también que en ambas graficas el numero de contagios acumulados va en crecimiento a medida que el tiempo aumenta eso quiere decir que la interpolación fue realizada de manera correcta.

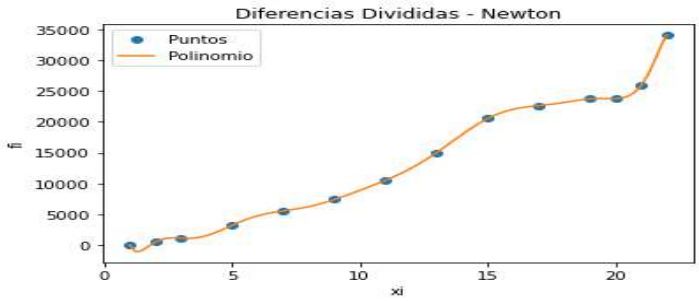


Figura 8.- Interpolación en meses realizada en Python mediante el método de NEWTHON

Fuente: (Grupo de trabajo)

CONCLUSIONES

- Mediante el desarrollo de este trabajo colaborativo e investigativo se logró obtener datos estadísticos reales de la actualidad de la pandemia por el COVID 19 que afecta a nuestro país y mundo, cabe recalcar que mediante la interpolación realizada con datos reales de contagios se logró también prever un número aproximado de contagios acumulados.
- La interpolación polinómica de newton será útil o más útil para funciones de primer grado ya que es de esta forma en la que está más simple llegar al resultado, pero al ir subiendo de grado el polinomio esta se vuelve cada ves mas larga lo cual complica su utilización y desarrollo correcto, por ende, tendrá un error considerable.

BIBLIOGRAFIA

Ministerio de salud publica. (29 de Febrero de 2020). Obtenido de https://www.salud.gob.ec/informes-de-situacion-sitrep-e-infografias-covid-19-desde-26-07-2021/

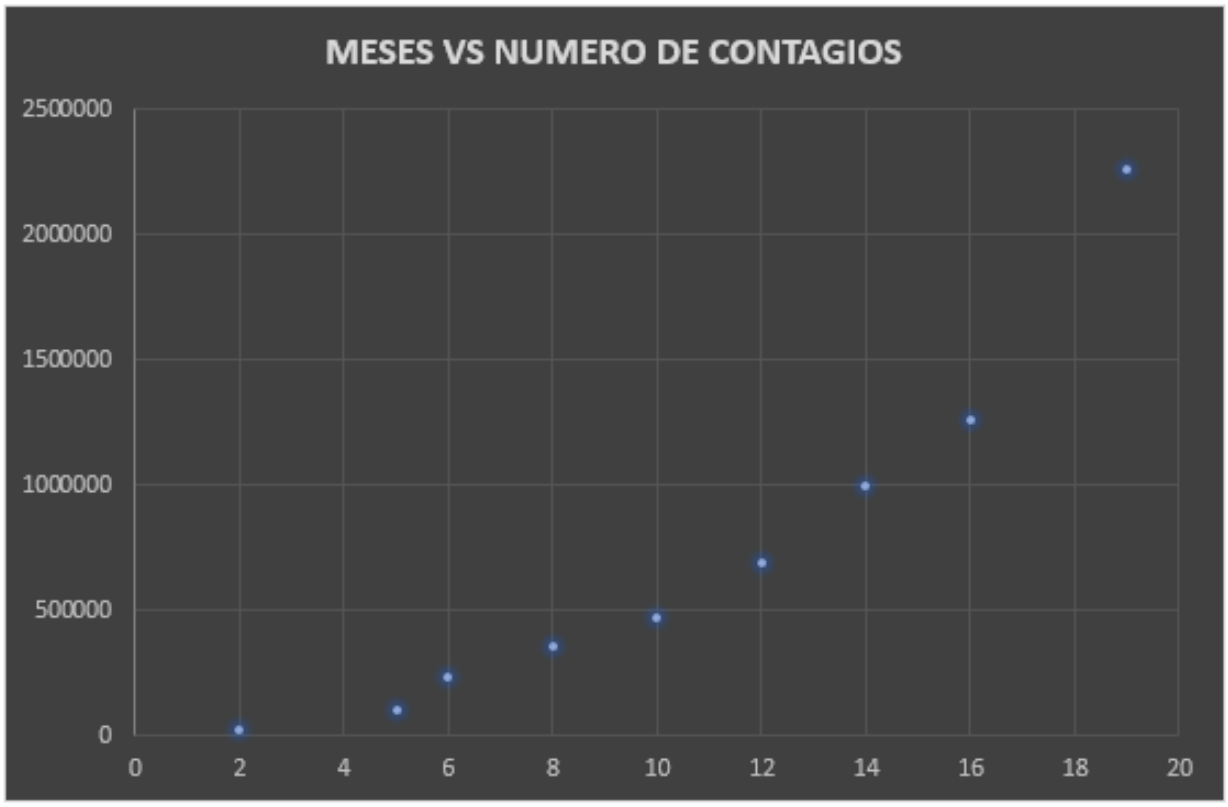
INTERPOLACIÓN SEGÚN LOS DATOS OBTENIDOS EN MESES MEDIANTE LA UTILIZACIÓN DEL MÉTODO DE LAGRANGE

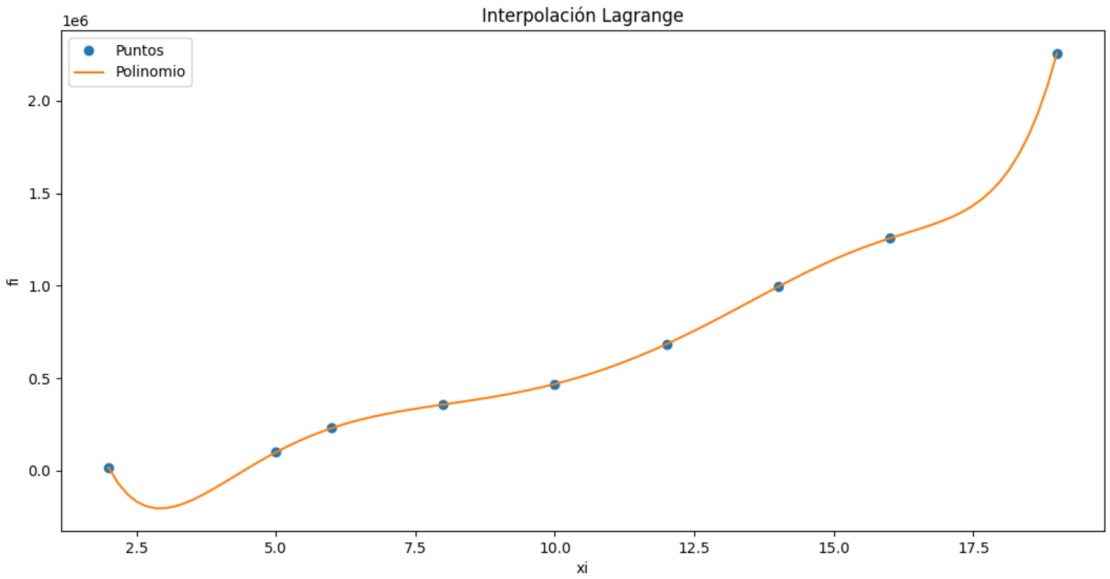
Datos Reales

X(MESES)	Y (NUMERO DE CONTAGIOS)	X(MESES)	Y (NUMERO DE CONTAGIOS)
1	1722	11	307586
2	16300	12	376867
3	36694	13	450497
4	63119	14	543551
5	96571	15	611066
6	133907	16	644843
7	166140	17	677446
8	191841	18	702779
9	219367	19	876860
10	249643		

Datos muestra

N	X(MESES)	Y (NUMERO DE CONTAGIOS)
x_0	2	18022
x_1	5	99813
x_2	6	230478
x_3	8	357981
x_4	10	469010
x_5	12	684453
x_6	14	994048
x_7	16	1255909
x_8	19	2257085





$$x_{8,0} = \frac{(x-4)(x-6)(x-8)(x-10)(x-12)(x-14)(x-16)(x-19)}{(x_0-4)(x_0-6)(x_0-8)(x_0-10)(x_0-12)(x_0-14)(x_0-16)(x_0-19)}$$

$$x_0 = 2$$

$$x_{8,0} = \frac{(x-4)(x-6)(x-8)(x-10)(x-12)(x-14)(x-16)(x-19)}{16450560}$$

$$x_{8,1} = \frac{(x-2)(x-6)(x-8)(x-10)(x-12)(x-14)(x-16)(x-19)}{(x_1-2)(x_1-6)(x_1-8)(x_1-10)(x_1-12)(x_1-14)(x_1-16)(x_1-19)}$$

$$x_1 = 4$$

$$x_{8,1} = \frac{(x-2)(x-6)(x-8)(x-10)(x-12)(x-14)(x-16)(x-19)}{-436590}$$

$$x_{8,2} = \frac{(x-2)(x-4)(x-8)(x-10)(x-12)(x-14)(x-16)(x-19)}{(x_2-2)(x_2-4)(x_2-8)(x_2-10)(x_2-12)(x_2-14)(x_2-16)(x_2-19)}$$

$$x_2 = 6$$

$$x_{8,2} = \frac{(x-2)(x-4)(x-10)(x-12)(x-14)(x-16)(x-19)}{199680}$$

$$x_{8,3} = \frac{(x-2)(x-4)(x-6)(x-10)(x-12)(x-14)(x-16)(x-19)}{(x_3-2)(x_3-4)(x_3-6)(x_3-10)(x_3-12)(x_3-14)(x_3-16)(x_3-19)}$$

$$x_3 = 8$$

$$x_{8,3} = \frac{(x-2)(x-4)(x-6)(x-10)(x-12)(x-14)(x-16)(x-19)}{-152064.}$$

$$x_{8,4} = \frac{(x-2)(x-4)(x-6)(x-8)(x-12)(x-14)(x-16)(x-19)}{(x_4-2)(x_4-4)(x_4-6)(x_4-8)(x_4-12)(x_4-14)(x_4-16)(x_4-19)}$$

$$x_4 = 10$$

$$x_{8,4} = \frac{(x-2)(x-4)(x-6)(x-8)(x-12)(x-14)(x-16)(x-19)}{138240}$$

$$x_{8,5} = \frac{(x-2)(x-4)(x-6)(x-8)(x-10)(x-14)(x-16)(x-19)}{(x_5-2)(x_5-4)(x_5-6)(x_5-8)(x_5-10)(x_5-14)(x_5-16)(x_5-19)}$$

$$x_5 = 12$$

$$x_{8,5} = \frac{(x-2)(x-4)(x-6)(x-8)(x-10)(x-14)(x-16)(x-19)}{-188160}$$

$$x_{8,6} = \frac{(x-2)(x-4)(x-6)(x-8)(x-10)(x-12)(x-16)(x-19)}{(x_6-2)(x_6-4)(x_6-6)(x_6-8)(x_6-10)(x_6-12)(x_6-16)(x_6-19)}$$

$$x_6 = 14$$

$$x_{8,6} = \frac{(x-2)(x-4)(x-6)(x-8)(x-10)(x-12)(x-16)(x-19)}{414720}$$

$$x_{8,7} = \frac{(x-2)(x-4)(x-6)(x-8)(x-10)(x-12)(x-14)(x-19)}{(x_7-2)(x_7-4)(x_7-6)(x_7-8)(x_7-10)(x_7-12)(x_7-14)(x_7-19)}$$

$$x_7 = 16$$

$$x_{8,7} = \frac{(x-2)(x-4)(x-6)(x-8)(x-10)(x-12)(x-14)(x-19)}{-1774080}$$

$$x_{8,8} = \frac{(x-2)(x-4)(x-6)(x-8)(x-10)(x-12)(x-14)(x-16)}{(x_8-2)(x_8-4)(x_8-6)(x_8-8)(x_8-10)(x_8-12)(x_8-14)(x_8-16)}$$

$$x_8 = 19$$

$$x_{8,8} = \frac{(x-2)(x-4)(x-6)(x-8)(x-10)(x-12)(x-14)(x-16)}{32162130}$$

Polinomio de Lagrange, expresiones

$$P_8(x) = 9011(x-19)(x-16)(x-14)(x-12)(x-10)(x-8)(x-6)(x-5)/8225280 - 679(x-19)(x-16)(x-14)(x-12)(x-10)(x-8)(x-6)(x-2)/2970$$

$$+ 38413(x-19)(x-16)(x-14)(x-12)(x-10)(x-8)(x-5)(x-2)/33280 - 119327(x-19)(x-$$

$$16)(x-14)(x-12)(x-10)(x-6)(x-5)(x-2)/50688 + 46901(x-19)(x-16)(x-14)(x-12)(x-8)(x-6)(x-5)(x-$$

$$2)/13824 - 32593(x - 19)(x - 16)(x - 14)(x - 10)(x - 8)(x - 6)(x - 5)(x - 2)/8960 + 3883(x - 19)(x - 16)(x - 12)(x - 10)(x - 8)(x - 6)(x - 5)(x - 2)/1620 - 1255909(x - 19)(x - 14)(x$$

$$- 12)(x - 10)(x - 8)(x - 6)(x - 5)(x - 2)/1774080 + 451417(x$$

Polinomio de Lagrange:

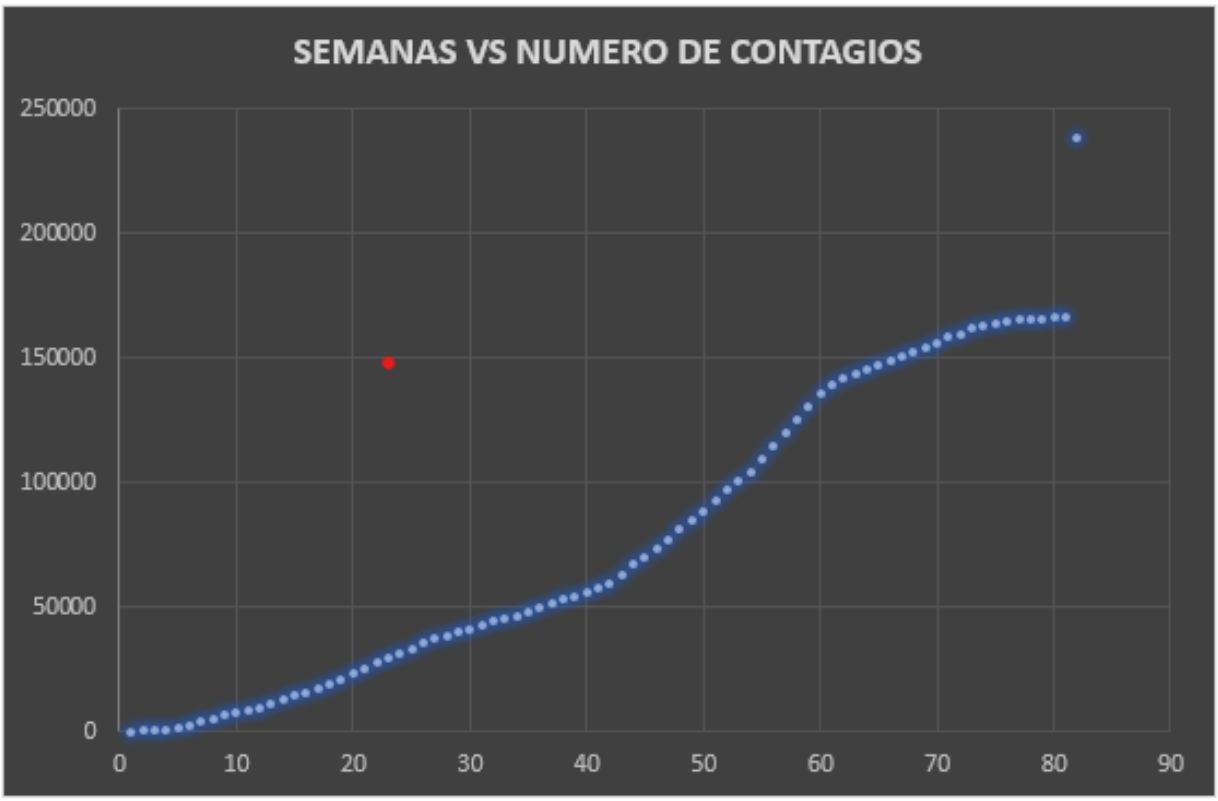
$$P_8(x) = 2145182141x^8/24700515840 - 29637819269x^7/4116752640 + 141523670339x^6/548900352 - 21457778718491x^5/4116752640 + 133258307184577x^4/2058376320 - 513870215484449x^3/1029188160 + 352714563176893^2/154378224 - 58139471637251x/10720710 + 740491827773/153153$$

INTERPOLACIÓN SEGÚN LOS DATOS OBTENIDOS EN SEMANAS MEDIANTE LA UTILIZACIÓN DEL MÉTODO DE LAGRANGE

Datos Reales

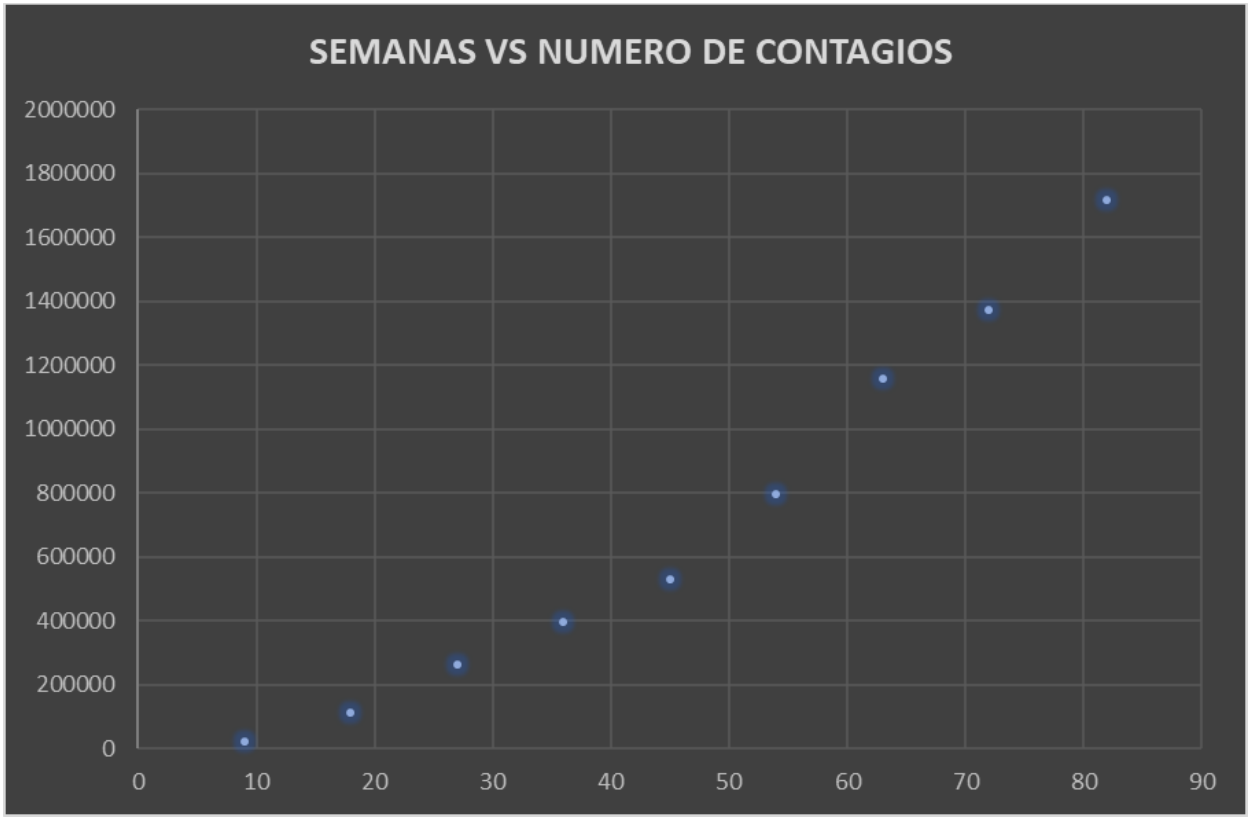
X(SEMANAS)	Y (NUMERO DE CONTAGIOS)	X(SEMANAS)	Y (NUMERO DE CONTAGIOS)
1	22	43	62774
2	150	44	66690
3	368	45	70043
4	833	46	73504
5	1519	47	76789
6	2574	48	81264
7	4176	49	84643
8	4779	50	88354
9	6530	51	92817
10	7248	52	96774
11	8061	53	100207
12	9262	54	104083
13	10851	55	109259
14	12655	56	114580
15	14087	57	119525
16	15382	58	125187
17	16758	59	130190
18	18697	60	135357
19	20650	61	138732
20	22998	62	141598
21	25270	63	143603
22	27326	64	145296
23	29085	65	147033

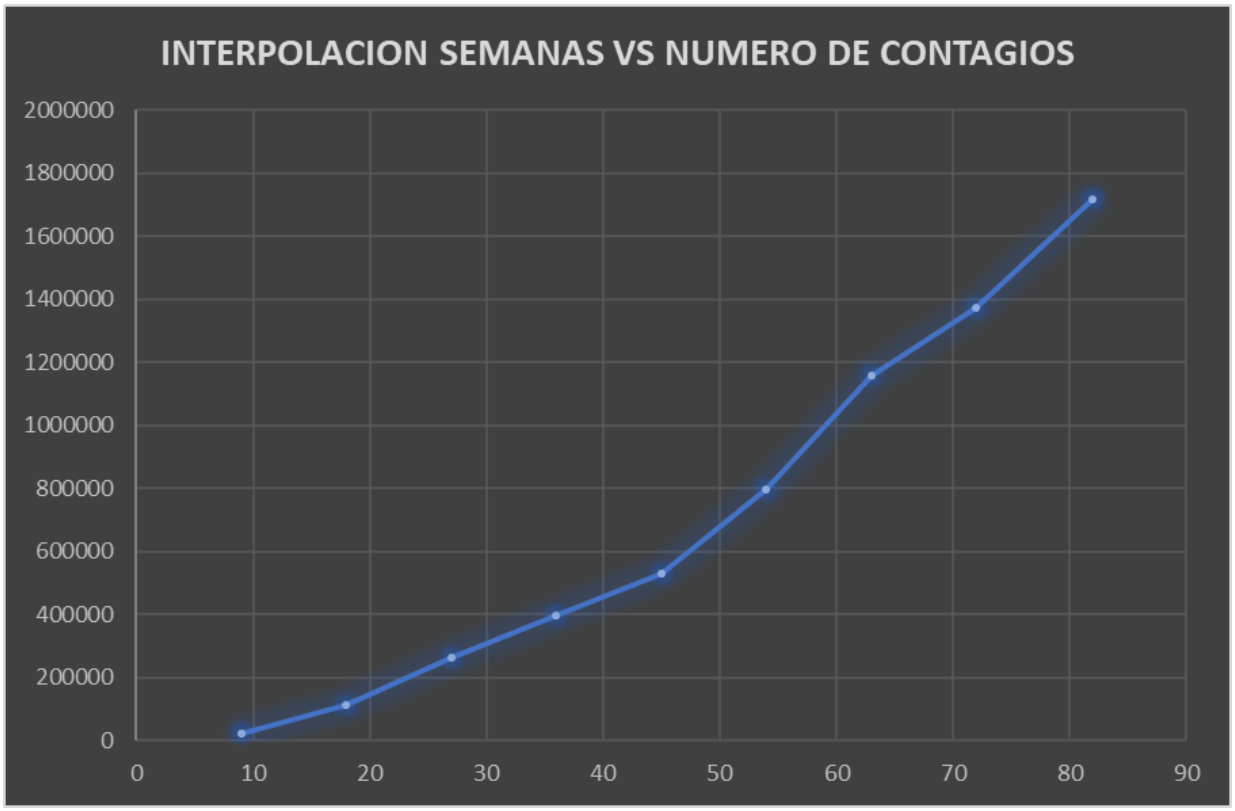
24	30833	66	148562
25	33034	67	150604
26	35454	68	152457
27	36948	69	154186
28	38012	70	155991
29	39749	71	158058
30	41142	72	158786
31	42377	73	161607
32	44342	74	162804
33	45340	75	163759
34	46155	76	164479
35	48177	77	164988
36	49687	78	165261
37	51525	79	165491
38	52800	80	165803
39	54152	81	166174
40	55944	82	237722
41	57485		
42	59328		



Datos muestra

N	X(SEMANAS)	Y (NUMERO DE CONTAGIOS)
x_0	9	20951
x_1	18	113001
x_2	27	261598
x_3	36	394981
x_4	45	530741
x_5	54	798435
x_6	63	1158031
x_7	72	1370973
x_8	82	1718088





$$x_{8,0} = \frac{(x-18)(x-27)(x-36)(x-45)(x-54)(x-63)(x-72)(x-82)}{(x_0-18)(x_0-27)(x_0-36)(x_0-45)(x_0-54)(x_0-63)(x_0-72)(x_0-82)}$$

$$x_{8,1} = \frac{(x-9)(x-27)(x-36)(x-45)(x-54)(x-63)(x-72)(x-82)}{(x_1-9)(x_1-27)(x_1-36)(x_1-45)(x_1-54)(x_1-63)(x_1-72)(x_1-82)}$$

$$x_{8,2} = \frac{(x-9)(x-18)(x-36)(x-45)(x-54)(x-63)(x-72)(x-82)}{(x_1-9)(x_1-18)(x_1-36)(x_1-45)(x_1-54)(x_1-63)(x_1-72)(x_1-82)}$$

$$x_{8,3} = \frac{(x-9)(x-18)(x-27)(x-45)(x-54)(x-63)(x-72)(x-82)}{(x_1-9)(x_1-18)(x_1-27)(x_1-45)(x_1-54)(x_1-63)(x_1-72)(x_1-82)}$$

$$x_{8,4} = \frac{(x-9)(x-18)(x-27)(x-36)(x-54)(x-63)(x-72)(x-82)}{(x_1-9)(x_1-18)(x_1-27)(x_1-36)(x_1-54)(x_1-63)(x_1-72)(x_1-82)}$$

$$x_{8,5} = \frac{(x-9)(x-18)(x-27)(x-36)(x-45)(x-63)(x-72)(x-82)}{(x_1-9)(x_1-18)(x_1-27)(x_1-36)(x_1-45)(x_1-63)(x_1-72)(x_1-82)}$$

$$x_{8,6} = \frac{(x-9)(x-18)(x-27)(x-36)(x-45)(x-54)(x-72)(x-82)}{(x_1-9)(x_1-18)(x_1-27)(x_1-36)(x_1-45)(x_1-54)(x_1-72)(x_1-82)}$$

$$x_{8,7} = \frac{(x-9)(x-18)(x-27)(x-36)(x-45)(x-54)(x-63)(x-82)}{(x_1-9)(x_1-18)(x_1-27)(x_1-36)(x_1-45)(x_1-54)(x_1-63)(x_1-82)}$$

$$x_{8,8} = \frac{(x-9)(x-18)(x-27)(x-36)(x-45)(x-54)(x-63)(x-72)}{(x_1-9)(x_1-18)(x_1-27)(x_1-36)(x_1-45)(x_1-54)(x_1-63)(x_1-72)}$$

$$x_{8,0} = \frac{(x-18)(x-27)(x-36)(x-45)(x-54)(x-63)(x-72)(x-82)}{-1.18663688\text{e}+09}$$

$$x_{8,1} = \frac{(x-9)(x-27)(x-36)(x-45)(x-54)(x-63)(x-72)(x-82)}{-1.35587942\text{e}+09}$$

$$x_{8,2} = \frac{(x-9)(x-18)(x-36)(x-45)(x-54)(x-63)(x-72)(x-82)}{-1.28931864\text{e}+09}$$

$$x_{8,3} = \frac{(x-9)(x-18)(x-27)(x-45)(x-54)(x-63)(x-72)(x-82)}{-1.61761558\text{e}+09}$$

$$x_{8,4} = \frac{(x-9)(x-18)(x-27)(x-36)(x-54)(x-63)(x-72)(x-82)}{-2.86144944\text{e}+08}$$

$$x_{8,5} = \frac{(x-9)(x-18)(x-27)(x-36)(x-45)(x-63)(x-72)(x-82)}{-2.07678061\text{e}+09}$$

$$x_{8,6} = \frac{(x-9)(x-18)(x-27)(x-36)(x-45)(x-54)(x-72)(x-82)}{1.00650648\text{e}+09}$$

$$x_{8,7} = \frac{(x-9)(x-18)(x-27)(x-36)(x-45)(x-54)(x-63)(x-82)}{-5.43469024\text{e}+08}$$

$$x_{8,8} = \frac{(x-9)(x-18)(x-27)(x-36)(x-45)(x-54)(x-63)(x-72)}{-1.19198003\text{e}+09}$$

Polinomio de Lagrange, expresiones

$$P_8(x) = -20951(x - 82)(x - 72)(x - 63)(x - 54)(x - 45)(x - 36)(x - 27)(x - 18)/1186636880 - 37667(x - 82)(x - 72)(x - 63)(x - 54)(x - 45)(x - 36)(x - 27)(x - 9)/451959808 - 130799(x - 82)(x - 72)(x - 63)(x - 54)(x - 45)(x - 36)(x - 18)(x - 9)/644659320 - 394981(x - 82)(x - 72)(x - 63)(x - 54)(x - 45)(x - 27)(x - 18)(x - 9)/1617615584 - 530741(x - 82)(x - 72)(x - 63)(x - 54)(x - 36)(x - 27)(x - 18)(x - 9)/286144944 - 798435(x - 82)(x - 72)(x - 63)(x - 45)(x - 36)(x - 27)(x - 18)(x - 9)/2076780608 + 165433(x - 82)(x - 72)(x - 54)(x - 45)(x - 36)(x - 27)(x - 18)(x - 9)/143786640 - 1370973(x - 82)(x - 63)(x - 54)(x - 45)(x - 36)(x - 27)(x - 18)(x - 9)/543469024 - 214761(x - 72)(x - 63)(x - 54)(x - 45)(x - 36)(x - 27)(x - 18)(x - 9)/148997504$$

Polinomio de Lagrange:

$$P_8(x) = 55012251853066507528046317142621761067304319635992810984710 9x^8/98222386128465165957207698569180717498783204737534379757675520 + 331131931119589314335176792561600390579249195881979442393185891x\text{^}7/17188917572481404042511347249606625562287060829068516457593216 0 - 41520194601165659288548472837314774601696457104548316800626141 3x\text{^}6/14882179716434116054122378571087987499815637081444602993587 20 + 18095682097150511842999877019140777684800674343428718003003376349x\text{^}5/81851988440387638297673082140983931248986003947945316464729 6 - 34102244913894427916202435566945201926236658700908259994668965224327x\text{^}4/32740795376155055319069232856393572499594401579178126585891840 + 24253019708753006236289893375340203987199785218874643330141699741589 9x\text{^}3/81851988440387638297673082140983931248986003947945316464729 60 - 17499763570262895600734723622786920021557531662422491494907242492266 7x\text{^}2/35587821061038103607683948756949535325646088673019702810752 0 + 12289479003650220799071088593306075938227744752445831997158814556693573x/28648195954135673404185578749344375937145101381780860762655 36 - 75413973735009124342703315005744609037895985869621798176912277040923 3/51157492775242273936045676338114957030616252467465822790456$$

INTERPOLACIÓN SEGÚN LOS DATOS OBTENIDOS EN DIAS MEDIANTE LA UTILIZACIÓN DEL MÉTODO DE LAGRANGE

Datos Muestra

X(HORAS)	Y (NUMERO DE	X(HORAS)	Y (NUMERO DE	X(HORAS)	Y (NUMERO DE

	CONTAGIOS)		CONTAGIOS)		CONTAGIOS)
24	1	4632	5384	9264	16002
48	1	4656	5400	9288	16087
72	1	4680	5523	9312	16342
96	2	4704	5600	9336	16344
120	2	4728	5619	9360	16513
144	6	4752	5635	9384	16568
168	9	4776	5640	9408	16724
192	14	4800	5654	9432	16730
216	17	4824	5664	9456	16911
240	20	4848	5740	9480	17037
264	21	4872	5797	9504	17037
288	23	4896	5828	9528	17136
312	25	4920	5832	9552	17320
336	30	4944	5833	9576	17354
360	34	4968	5844	9600	17610
384	52	4992	5905	9624	17746
408	56	5016	5936	9648	17786
432	56	5040	5964	9672	17925
456	56	5064	6008	9696	17969
480	56	5088	6009	9720	18044
504	58	5112	6028	9744	18107
528	58	5136	6038	9768	18120
552	82	5160	6040	9792	18352
576	97	5184	6094	9816	18507
600	137	5208	6160	9840	18668
624	149	5232	6253	9864	18802
648	150	5256	6293	9888	18812
672	160	5280	6295	9912	18929
696	166	5304	6310	9936	19062
720	183	5328	6350	9960	19193
744	193	5352	6408	9984	19283
768	207	5376	6433	10008	19341
792	247	5400	6441	10032	19435
816	257	5424	6452	10056	19511
840	266	5448	6477	10080	19532
864	276	5472	6483	10104	19592
888	289	5496	6493	10128	19776
912	300	5520	6497	10152	19789
936	477	5544	6497	10176	19842
960	327	5568	6497	10200	19862
984	448	5592	6524	10224	19900
1008	457	5616	6577	10248	19971
1032	474	5640	6577	10272	20052
1056	559	5664	6605	10296	20137
1080	575	5688	6669	10320	20223

1104	624	5712	6706	10344	20246
1128	643	5736	6785	10368	20268
1152	628	5760	6842	10392	20298
1176	673	5784	6870	10416	20374
1200	652	5808	6872	10440	20398
1224	658	5832	6894	10464	20442
1248	672	5856	6939	10488	20528
1272	664	5880	6975	10512	20533
1296	707	5904	6993	10536	20536
1320	710	5928	7046	10560	20577
1344	716	5952	7073	10584	20589
1368	839	5976	7104	10608	20639
1392	907	6000	7113	10632	20703
1416	920	6024	7156	10656	20743
1440	935	6048	7202	10680	20775
1464	959	6072	7279	10704	20795
1488	976	6096	7311	10728	20800
1512	994	6120	7362	10752	20841
1536	1004	6144	7367	10776	20880
1560	1017	6168	7390	10800	20957
1584	1025	6192	7398	10824	21004
1608	1039	6216	7418	10848	21010
1632	1050	6240	7462	10872	21019
1656	1051	6264	7502	10896	21072
1680	1062	6288	7541	10920	21091
1704	1066	6312	7549	10944	21138
1728	1088	6336	7560	10968	21174
1752	1094	6360	7566	10992	21178
1776	1167	6384	7620	11016	21223
1800	1210	6408	7652	11040	21242
1824	1213	6432	7691	11064	21300
1848	1223	6456	7730	11088	21307
1872	1278	6480	7732	11112	21384
1896	1305	6504	7748	11136	21430
1920	1309	6528	7780	11160	21456
1944	1320	6552	7819	11184	21508
1968	1323	6576	7901	11208	21584
1992	1347	6600	7938	11232	21594
2016	1380	6624	7985	11256	21648
2040	1442	6648	7998	11280	21668
2064	1489	6672	7998	11304	21734
2088	1514	6696	8040	11328	21734
2112	1574	6720	8084	11352	21768
2136	1580	6744	8147	11376	21830
2160	1595	6768	8153	11400	21840
2184	1657	6792	8153	11424	21883

2208	1743	6816	8199	11448	21968
2232	1759	6840	8213	11472	22002
2256	1790	6864	8297	11496	22027
2280	1803	6888	8323	11520	22027
2304	1817	6912	8343	11544	22029
2328	1861	6936	8435	11568	22056
2352	1882	6960	8438	11592	22077
2376	1944	6984	8452	11616	22158
2400	1976	7008	8500	11640	22180
2424	2013	7032	8547	11664	22235
2448	2017	7056	8613	11688	22254
2472	2022	7080	8680	11712	22353
2496	2042	7104	8796	11736	22382
2520	2073	7128	8872	11760	22429
2544	2135	7152	8999	11784	22517
2568	2156	7176	9048	11808	22517
2592	2173	7200	9144	11832	22517
2616	2189	7224	9235	11856	22599
2640	2192	7248	9321	11880	22636
2664	2259	7272	9425	11904	22636
2688	2278	7296	9466	11928	22636
2712	2296	7320	9478	11952	22636
2736	2329	7344	9584	11976	22636
2760	2354	7368	9648	12000	22636
2784	2406	7392	9768	12024	22636
2808	2432	7416	9830	12048	22636
2832	2445	7440	9872	12072	22636
2856	2496	7464	10011	12096	22970
2880	2580	7488	10023	12120	23007
2904	2617	7512	10067	12144	23032
2928	2626	7536	10078	12168	23086
2952	2632	7560	10162	12192	23097
2976	2739	7584	10187	12216	23102
3000	2745	7608	10422	12240	23125
3024	2758	7632	10497	12264	23158
3048	2764	7656	10548	12288	23189
3072	2879	7680	10570	12312	23225
3096	2904	7704	10633	12336	23248
3120	2922	7728	10647	12360	23250
3144	3001	7752	10746	12384	23274
3168	3062	7776	10811	12408	23296
3192	3118	7800	10979	12432	23322
3216	3181	7824	11004	12456	23349
3240	3233	7848	11021	12480	23382
3264	3248	7872	11029	12504	23387
3288	3291	7896	11199	12528	23389

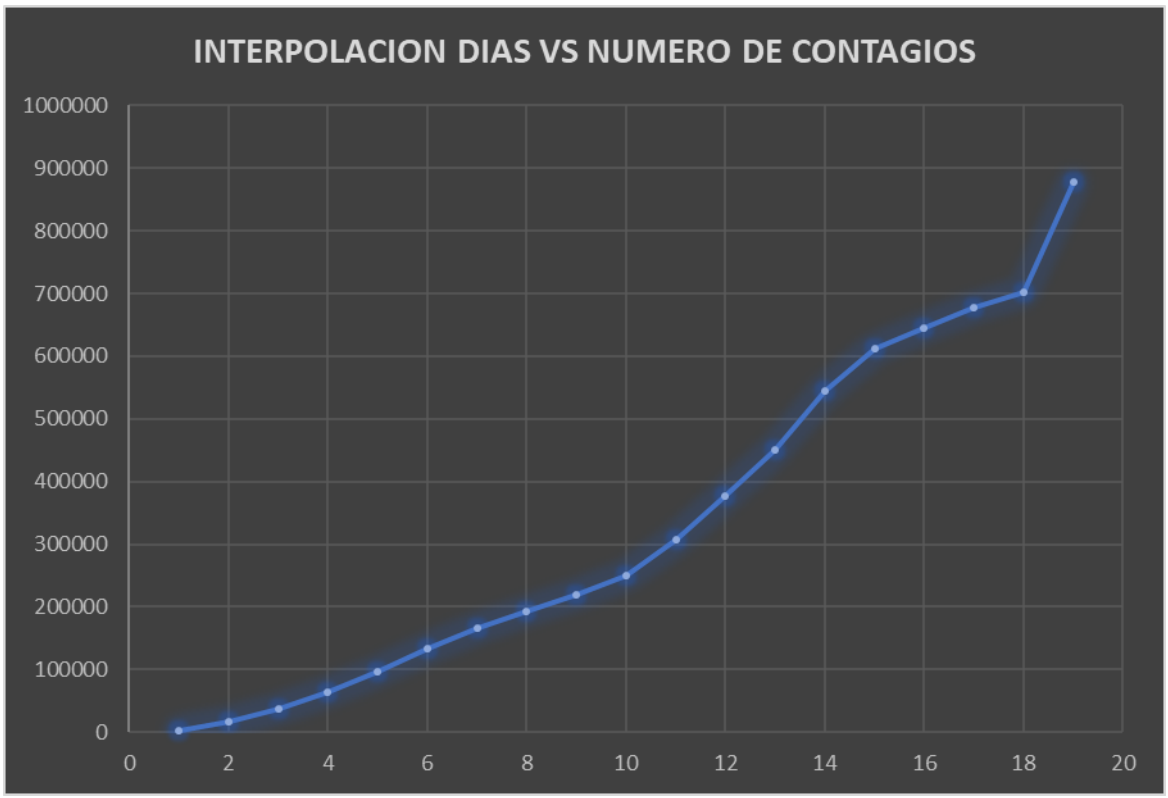
3312	3342	7920	11325	12552	23402
3336	3346	7944	11475	12576	23416
3360	3357	7968	11600	12600	23434
3384	3414	7992	11657	12624	23456
3408	3492	8016	11716	12648	23485
3432	3588	8040	11719	12672	23494
3456	3634	8064	11772	12696	23495
3480	3666	8088	11833	12720	23507
3504	3721	8112	11910	12744	23516
3528	3755	8136	12068	12768	23526
3552	3821	8160	12086	12792	23542
3576	3845	8184	12177	12816	23558
3600	3870	8208	12270	12840	23569
3624	3877	8232	12299	12864	23570
3648	3958	8256	12382	12888	23573
3672	3968	8280	12495	12912	23587
3696	3987	8304	12625	12936	23589
3720	4041	8328	12633	12960	23591
3744	4056	8352	12648	12984	23607
3768	4103	8376	12765	13008	23607
3792	4159	8400	12806	13032	23608
3816	4215	8424	12964	13056	23613
3840	4234	8448	13012	13080	23616
3864	4277	8472	13301	13104	23619
3888	4330	8496	13306	13128	23634
3912	4345	8520	13325	13152	23638
3936	4376	8544	13419	13176	23639
3960	4385	8568	13490	13200	23640
3984	4423	8592	13577	13224	23646
4008	4464	8616	13712	13248	23647
4032	4510	8640	13825	13272	23647
4056	4560	8664	13863	13296	23657
4080	4629	8688	13872	13320	23675
4104	4707	8712	13936	13344	23675
4128	4727	8736	13989	13368	23676
4152	4755	8760	14091	13392	23693
4176	4779	8784	14209	13416	23699
4200	4877	8808	14298	13440	23728
4224	4951	8832	14326	13464	23728
4248	4984	8856	14332	13488	23728
4272	5053	8880	14443	13512	23728
4296	5082	8904	14508	13536	23742
4320	5095	8928	14621	13560	23742
4344	5127	8952	14654	13584	23748
4368	5162	8976	14855	13608	23758
4392	5206	9000	14870	13632	23763

4416	5243	9024	14938	13656	23764
4440	5277	9048	14986	13680	23764
4464	5280	9072	15159	13704	23767
4488	5295	9096	15278	13728	23771
4512	5313	9120	15288	13752	23771
4536	5334	9144	15591	13776	23775
4560	5352	9168	15707	13800	23777
4584	5371	9192	15732	13824	23784
4608	5382	9216	15810	13848	23786
		9240	15853		

Datos muestra

N	X(DIAS)	Y (NUMERO DE CONTAGIOS)
1	64	21955
2	128	117640
3	192	272060
4	256	408195
5	320	553646
6	384	839617
7	448	1209921
8	512	1410473
9	577	1533292


DIAS VS NUMERO DE CONTAGIOS
1800000
1600000
1400000
1200000
1000000
800000
600000
400000
200000
0
0
100
200
300
400
500
600
700


INTERPOLACION DIAS VS NUMERO DE CONTAGIOS
1000000
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
0
2
4
6
8
10
12
14
16
18
20

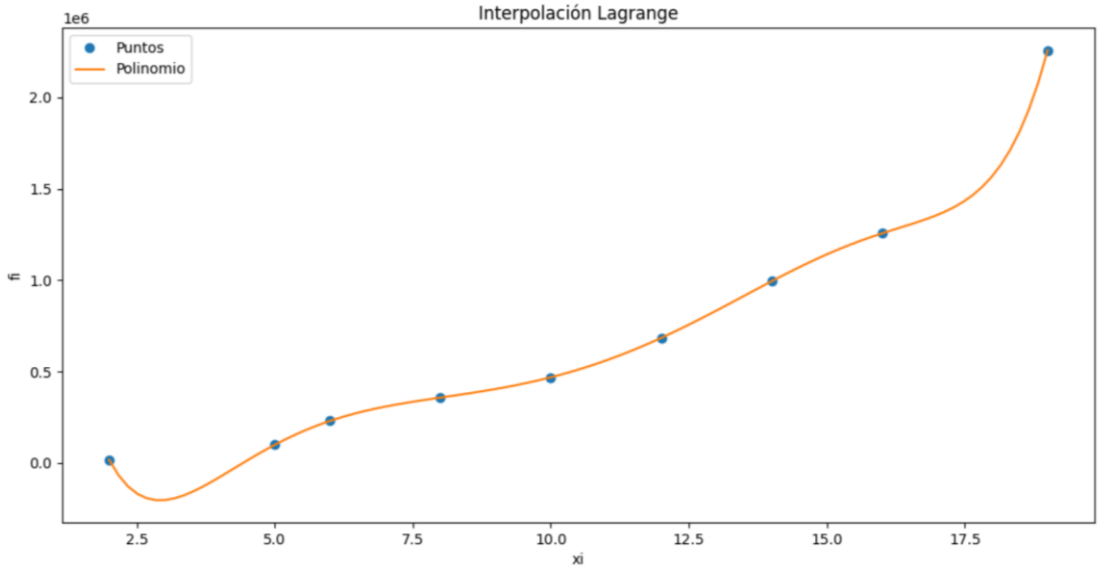
Polinomio de Lagrange, expresiones

$P_8(x)$ =21955 (x - 577)(x - 512)(x - 448)(x - 384)(x - 320)(x - 256)(x - 192)(x - 128) +117640 (x - 577)(x - 512)(x - 448)(x - 384)(x - 320)(x - 256)(x - 192)(x - 64) +272060 (x - 577)(x - 512)(x - 448)(x - 384)(x - 320)(x - 256)(x - 128)(x - 64) +408195 (x - 577)(x - 512)(x - 448)(x - 384)(x - 320)(x - 192)(x - 128)(x - 64) +553646 (x - 577)(x - 512)(x - 448)(x - 384)(x - 256)(x - 192)(x - 128)(x - 64) +839617 (x - 577)(x - 512)(x - 448)(x - 320)(x - 256)(x - 192)(x - 128)(x - 64) +1209921 (x - 577)(x - 512)(x - 384)(x - 320)(x - 256)(x - 192)(x - 128)(x

- 64) +1410473 (x - 577)(x - 448)(x - 384)(x - 320)(x - 256)(x - 192)(x - 128)(x - 64) - 1533292(x - 512)(x - 448)(x - 384)(x - 320)(x - 256)(x - 192)(x - 128)(x - 64)/134076159

ANALISIS

Al realizar una comparación entre cada figura la cual corresponde a la interpolación por el método de Lagrange se observa una variación considerable entre cada gráfica, esto se debe al muestreo de datos que se utilizó para la interpolación, esta grafica que se obtuvo mediante procedimientos matemáticos brinda también un valor aproximado de contagios acumulados de COVID 19. Se puede apreciar como el nivel de contagios ha ido en constante crecimiento, y esto no ha cesado desde el 20 de marzo, lo que podemos esclarecer que las medidas tomadas no se han implementado correctamente en la provincia del Oro, dado que la cantidad de contagios nunca se vio un descenso.



CONCLUSIONES

Con el método de Lagrange para interpolar se ha encontrado una ecuación que nos brinda la trayecto o flujo en como se ha dado la cantidad de contagios, es decir nos prevé un aproximado de contagios acumulados.

Se puede apreciar que al obtener la ecuación cuando lo analizamos en función de días esta curva se ve una elevación mucho mas rápida, lo que quiere decir que los números de contagios subió de manera abrupta. Esto se pudo haber dado sea por la inconsciencia de la gente de la provincia.

La función obtenida por el método de Lagrange nos indica la curva en la que el COVID-19 ha ido desarrollando en la Provincia del Oro, y viendo cada grafica pertinente se puede deducir que nunca se bajaron el numero de casos, es mas hubo un aumento. Por ende, la población de esta provincia no a implementado correctamente las medidas otorgadas para evitar la expansión del virus.

Método del Spline Cúbico

Tabla de Datos de contagios por días en la Provincia del Oro

Tiempo = t | DIAS

Contagios por días = d

Tiempo	d
24	1
48	1
72	1
96	2
120	2
144	6
168	9
192	14
216	17
240	20
264	21
288	23
312	25
336	30
360	34
384	52
408	56
432	56
456	56
480	56
504	58
528	58
552	82
576	97
600	137
624	149
648	150
672	160
696	166
720	183
744	193
768	207
792	247
816	257
840	266
864	276
888	289
912	300
936	477
960	327
984	448
1008	457
1032	474
1056	559
1080	575
1104	624
1128	643
1152	628
1176	673
1200	652
1224	658
1248	672
1272	664
1296	707
1320	710
1344	716
1368	839
1392	907
1416	920
1440	935
1464	959
1488	976
1512	994
1536	1004
1560	1017
1584	1025
1608	1039
1632	1050
1656	1051
1680	1062
1704	1066
1728	1088
1752	1094
1776	1167
1800	1210
1824	1213
1848	1223
1872	1278
1896	1305
1920	1309
1944	1320
1968	1323
1992	1347
2016	1380
2040	1442
2064	1489
2088	1514
2112	1574
2136	1580
2160	1595
2184	1657
2208	1743
2232	1759
2256	1790
2280	1803
2304	1817
2328	1861
2352	1882
2376	1944
2400	1976
2424	2013
2448	2017
2472	2022
2496	2042
2520	2073
2544	2135
2568	2156
2592	2173
2616	2189
2640	2192
2664	2259
2688	2278
2712	2296
2736	2329
2760	2354
2784	2406
2808	2432
2832	2445
2856	2496
2880	2580
2904	2617
2928	2626
2952	2632
2976	2739
3000	2745
3024	2758
3048	2764
3072	2879
3096	2904

3120	2922
3144	3001
3168	3062
3192	3118
3216	3181
3240	3233
3264	3248
3288	3291
3312	3342
3336	3346
3360	3357
3384	3414
3408	3492
3432	3588
3456	3634
3480	3666
3504	3721
3528	3755
3552	3821
3576	3845
3600	3870
3624	3877
3648	3958
3672	3968
3696	3987
3720	4041
3744	4056
3768	4103
3792	4159
3816	4215
3840	4234
3864	4277
3888	4330
3912	4345
3936	4376
3960	4385
3984	4423
4008	4464
4032	4510
4056	4560
4080	4629
4104	4707
4128	4727
4152	4755
4176	4779

4200	4877
4224	4951
4248	4984
4272	5053
4296	5082
4320	5095
4344	5127
4368	5162
4392	5206
4416	5243
4440	5277
4464	5280
4488	5295
4512	5313
4536	5334
4560	5352
4584	5371
4608	5382
4632	5384
4656	5400
4680	5523
4704	5600
4728	5619
4752	5635
4776	5640
4800	5654
4824	5664
4848	5740
4872	5797
4896	5828
4920	5832
4944	5833
4968	5844
4992	5905
5016	5936
5040	5964
5064	6008
5088	6009
5112	6028
5136	6038
5160	6040
5184	6094
5208	6160
5232	6253
5256	6293

5280	6295
5304	6310
5328	6350
5352	6408
5376	6433
5400	6441
5424	6452
5448	6477
5472	6483
5496	6493
5520	6497
5544	6497
5568	6497
5592	6524
5616	6577
5640	6577
5664	6605
5688	6669
5712	6706
5736	6785
5760	6842
5784	6870
5808	6872
5832	6894
5856	6939
5880	6975
5904	6993
5928	7046
5952	7073
5976	7104
6000	7113
6024	7156
6048	7202
6072	7279
6096	7311
6120	7362
6144	7367
6168	7390
6192	7398
6216	7418
6240	7462
6264	7502
6288	7541
6312	7549
6336	7560

6360	7566
6384	7620
6408	7652
6432	7691
6456	7730
6480	7732
6504	7748
6528	7780
6552	7819
6576	7901
6600	7938
6624	7985
6648	7998
6672	7998
6696	8040
6720	8084
6744	8147
6768	8153
6792	8153
6816	8199
6840	8213
6864	8297
6888	8323
6912	8343
6936	8435
6960	8438
6984	8452
7008	8500
7032	8547
7056	8613
7080	8680
7104	8796
7128	8872
7152	8999
7176	9048
7200	9144
7224	9235
7248	9321
7272	9425
7296	9466
7320	9478
7344	9584
7368	9648
7392	9768
7416	9830

7440	9872
7464	10011
7488	10023
7512	10067
7536	10078
7560	10162
7584	10187
7608	10422
7632	10497
7656	10548
7680	10570
7704	10633
7728	10647
7752	10746
7776	10811
7800	10979
7824	11004
7848	11021
7872	11029
7896	11199
7920	11325
7944	11475
7968	11600
7992	11657
8016	11716
8040	11719
8064	11772
8088	11833
8112	11910
8136	12068
8160	12086
8184	12177
8208	12270
8232	12299
8256	12382
8280	12495
8304	12625
8328	12633
8352	12648
8376	12765
8400	12806
8424	12964
8448	13012
8472	13301
8496	13306

8520	13325
8544	13419
8568	13490
8592	13577
8616	13712
8640	13825
8664	13863
8688	13872
8712	13936
8736	13989
8760	14091
8784	14209
8808	14298
8832	14326
8856	14332
8880	14443
8904	14508
8928	14621
8952	14654
8976	14855
9000	14870
9024	14938
9048	14986
9072	15159
9096	15278
9120	15288
9144	15591
9168	15707
9192	15732
9216	15810
9240	15853
9264	16002
9288	16087
9312	16342
9336	16344
9360	16513
9384	16568
9408	16724
9432	16730
9456	16911
9480	17037
9504	17037
9528	17136
9552	17320
9576	17354

9600	17610
9624	17746
9648	17786
9672	17925
9696	17969
9720	18044
9744	18107
9768	18120
9792	18352
9816	18507
9840	18668
9864	18802
9888	18812
9912	18929
9936	19062
9960	19193
9984	19283
10008	19341
10032	19435
10056	19511
10080	19532
10104	19592
10128	19776
10152	19789
10176	19842
10200	19862
10224	19900
10248	19971
10272	20052
10296	20137
10320	20223
10344	20246
10368	20268
10392	20298
10416	20374
10440	20398
10464	20442
10488	20528
10512	20533
10536	20536
10560	20577
10584	20589
10608	20639
10632	20703
10656	20743

10680	20775
10704	20795
10728	20800
10752	20841
10776	20880
10800	20957
10824	21004
10848	21010
10872	21019
10896	21072
10920	21091
10944	21138
10968	21174
10992	21178
11016	21223
11040	21242
11064	21300
11088	21307
11112	21384
11136	21430
11160	21456
11184	21508
11208	21584
11232	21594
11256	21648
11280	21668
11304	21734
11328	21734
11352	21768
11376	21830
11400	21840
11424	21883
11448	21968
11472	22002
11496	22027
11520	22027
11544	22029
11568	22056
11592	22077
11616	22158
11640	22180
11664	22235
11688	22254
11712	22353
11736	22382

11760	22429
11784	22517
11808	22517
11832	22517
11856	22599
11880	22636
11904	22636
11928	22636
11952	22636
11976	22636
12000	22636
12024	22636
12048	22636
12072	22636
12096	22970
12120	23007
12144	23032
12168	23086
12192	23097
12216	23102
12240	23125
12264	23158
12288	23189
12312	23225
12336	23248
12360	23250
12384	23274
12408	23296
12432	23322
12456	23349
12480	23382
12504	23387
12528	23389
12552	23402
12576	23416
12600	23434
12624	23456
12648	23485
12672	23494
12696	23495
12720	23507
12744	23516
12768	23526
12792	23542
12816	23558

12840	23569
12864	23570
12888	23573
12912	23587
12936	23589
12960	23591
12984	23607
13008	23607
13032	23608
13056	23613
13080	23616
13104	23619
13128	23634
13152	23638
13176	23639
13200	23640
13224	23646
13248	23647
13272	23647
13296	23657
13320	23675
13344	23675
13368	23676
13392	23693
13416	23699
13440	23728
13464	23728
13488	23728
13512	23728
13536	23742
13560	23742
13584	23748
13608	23758
13632	23763
13656	23764
13680	23764
13704	23767
13728	23771
13752	23771
13776	23775
13800	23777
13824	23784
13848	23786

Tabla 1 Contagios de Covid-19 por días

Resolución

$$\boldsymbol{S_0(x) = a_0 + b_0(x - x_0) + c_0(x - x_0)^2 + d_0(x - x_0)^3 \dots \dots \dots N_n(x - x_n)^n}$$

$s_0(x) = a_0 + b_0(x-24) + c_0(x-24)^2 + d_0(x-24)^3 + e_0(x-24)^4 + f_0(x-24)^5 + g_0(x-24)^6 + h_0(x-24)^7 + i_0(x-24)^8 + j_0(x-24)^9 + k_0(x-24)^{10} + l_0(x-24)^{11} + m_0(x-24)^{12} + n_0(x-24)^{13} + \tilde{n}_0(x-24)^{14} + o_0(x-24)^{15} + p_0(x-24)^{16} + q_0(x-24)^{17} + r_0(x-24)^{18} + s_0(x-24)^{19} + t_0(x-24)^{20} + u_0(x-24)^{21} + v_0(x-24)^{22} + w_0(x-24)^{23} + x_0(x-24)^{24} + y_0(x-24)^{25} + z_0(x-24)^{26} + A_0(x-24)^{27} + B_0(x-24)^{28} + C_0(x-24)^{29} + D_0(x-24)^{30} + E_0(x-24)^{31} + F_0(x-24)^{32} + G_0(x-24)^{33} + H_0(x-24)^{34} + I_0(x-24)^{35} + J_0(x-24)^{36} + K_0(x-24)^{37} + L_0(x-24)^{38} + M_0(x-24)^{39} + N_0(x-24)^{40} + O_0(x-24)^{41} + P_0(x-24)^{42} + Q_0(x-24)^{43} + R_0(x-24)^{44} + S_0(x-24)^{45} + T_0(x-24)^{46} + U_0(x-24)^{47} + V_0(x-24)^{48} + W_0(x-24)^{49} + X_0(x-24)^{50} + Y_0(x-24)^{51} + Z_0(x-24)^{52}$

$s_1(x) = a_1 + b_1(x-48) + c_1(x-48)^2 + d_1(x-48)^3 + e_1(x-48)^4 + f_1(x-48)^5 + g_1(x-48)^6 + h_1(x-48)^7 + i_1(x-48)^8 + j_1(x-48)^9 + k_1(x-48)^{11} + l_1(x-48)^{11} + m_1(x-48)^{12} + n_1(x-48)^{13} + \tilde{n}_1(x-48)^{14} + o_1(x-48)^{15} + p_1(x-48)^{16} + q_1(x-48)^{17} + r_1(x-48)^{18} + s_1(x-48)^{19} + t_1(x-48)^{21} + u_1(x-48)^{21} + v_1(x-48)^{22} + w_1(x-48)^{23} + x_1(x-48)^{48} + y_1(x-48)^{25} + z_1(x-48)^{26} + A_1(x-48)^{27} + B_1(x-48)^{28} + C_1(x-48)^{29} + D_1(x-48)^{31} + E_1(x-48)^{31} + F_1(x-48)^{32} + G_1(x-48)^{33} + H_1(x-48)^{34} + I_1(x-48)^{35} + J_1(x-48)^{36} + K_1(x-48)^{37} + L_1(x-48)^{38} + M_1(x-48)^{39} + N_1(x-48)^{41} + O_1(x-48)^{41} + P_1(x-48)^{42} + Q_1(x-48)^{43} + R_1(x-48)^{44} + S_1(x-48)^{45} + T_1(x-48)^{46} + U_1(x-48)^{47} + V_1(x-48)^{48} + W_1(x-48)^{49} + X_1(x-48)^{51} + Y_1(x-48)^{51} + Z_1(x-48)^{52}$

$s_2(x) = a_2 + b_2(x-72) + c_2(x-72)^2 + d_2(x-72)^3 + e_2(x-72)^4 + f_2(x-72)^5 + g_2(x-72)^6 + h_2(x-72)^7 + i_2(x-72)^8 + j_2(x-72)^9 + k_2(x-72)^{12} + l_2(x-72)^{11} + m_2(x-72)^{12} + n_2(x-72)^{13} + \tilde{n}_2(x-72)^{14} + o_2(x-72)^{15} + p_2(x-72)^{16} + q_2(x-72)^{17} + r_2(x-72)^{18} + s_2(x-72)^{19} + t_2(x-72)^{22} + u_2(x-72)^{21} + v_2(x-72)^{22} + w_2(x-72)^{23} + x_2(x-72)^{72} + y_2(x-72)^{25} + z_2(x-72)^{26} + A_2(x-72)^{27} + B_2(x-72)^{28} + C_2(x-72)^{29} + D_2(x-72)^{32} + E_2(x-72)^{31} + F_2(x-72)^{32} + G_2(x-72)^{33} + H_2(x-72)^{34} + I_2(x-72)^{35} + J_2(x-72)^{36} + K_2(x-72)^{37} + L_2(x-72)^{38} + M_2(x-72)^{39} + N_2(x-72)^{42} + O_2(x-72)^{41} + P_2(x-72)^{42} + Q_2(x-72)^{43} + R_2(x-72)^{44} + S_2(x-72)^{45} + T_2(x-72)^{46} + U_2(x-72)^{47} + V_2(x-72)^{72} + W_2(x-72)^{49} + X_2(x-72)^{52} + Y_2(x-72)^{51} + Z_2(x-72)^{52}$

$s_3(x) = a_3 + b_3(x-96) + c_3(x-96)^3 + d_3(x-96)^3 + e_3(x-96)^4 + f_3(x-96)^5 + g_3(x-96)^6 + h_3(x-96)^7 + i_3(x-96)^8 + j_3(x-96)^9 + k_3(x-96)^{13} + l_3(x-96)^{11} + m_3(x-96)^{13} + n_3(x-96)^{13} + \tilde{n}_3(x-96)^{14} + o_3(x-96)^{15} + p_3(x-96)^{16} + q_3(x-96)^{17} + r_3(x-96)^{18} + s_3(x-96)^{19} + t_3(x-96)^{33} + u_3(x-96)^{31} + v_3(x-96)^{33} + w_3(x-96)^{33} + x_3(x-96)^{96} + y_3(x-96)^{35} + z_3(x-96)^{36} + A_3(x-96)^{37} + B_3(x-96)^{38} + C_3(x-96)^{39} + D_3(x-96)^{33} + E_3(x-96)^{31} + F_3(x-96)^{33} + G_3(x-96)^{33} + H_3(x-96)^{34} + I_3(x-96)^{35} + J_3(x-96)^{36} +$

$K_3(x-96)^{37} + L_3(x-96)^{38} + M_3(x-96)^{39} + N_3(x-96)^{43} + O_3(x-96)^{41} +$
$P_3(x-96)^{43} + Q_3(x-96)^{43} + R_3(x-96)^{44} + S_3(x-96)^{45} + T_3(x-96)^{46} +$
$U_3(x-96)^{47} + V_3(x-96)^{96} + W_3(x-96)^{49} + X_3(x-96)^{53} + Y_3(x-96)^{51} +$
$Z_3(x-96)^{52}$

$s_4(x) = a_4 + b_4(x-120) + c_4(x-120)^4 + d_4(x-120)^4 + e_4(x-120)^4 +$
$f_4(x-120)^5 + g_4(x-120)^6 + h_4(x-120)^7 + i_4(x-120)^8 + j_4(x-120)^9 +$
$k_4(x-120)^{14} + l_4(x-120)^{11} + m_4(x-120)^{14} + n_4(x-120)^{14} + \tilde{n}_4(x-120)^{14} +$
$o_4(x-120)^{15} + p_4(x-120)^{16} + q_4(x-120)^{17} + r_4(x-120)^{18} + s_4(x-120)^{19} +$
$t_4(x-120)^{44} + u_4(x-120)^{41} + v_4(x-120)^{44} + w_4(x-120)^{44} + x_4(x-120)^{120} +$
$y_4(x-120)^{45} + z_4(x-120)^{46} + A_4(x-120)^{47} + B_4(x-120)^{48} + C_4(x-120)^{49} +$
$D_4(x-120)^{44} + E_4(x-120)^{41} + F_4(x-120)^{44} + G_4(x-120)^{44} + H_4(x-120)^{44} +$
$I_4(x-120)^{45} + J_4(x-120)^{46} + K_4(x-120)^{47} + L_4(x-120)^{48} + M_4(x-120)^{49} +$
$N_4(x-120)^{44} + O_4(x-120)^{41} + P_4(x-120)^{44} + Q_4(x-120)^{44} + R_4(x-120)^{44} +$
$S_4(x-120)^{45} + T_4(x-120)^{46} + U_4(x-120)^{47} + V_4(x-120)^{120} + W_4(x-120)^{49} +$
$X_4(x-120)^{54} + Y_4(x-120)^{51} + Z_4(x-120)^{52}$

$s_5(x) = a_5 + b_5(x-144) + c_5(x-144)^5 + d_5(x-144)^5 + e_5(x-144)^5 +$
$f_5(x-144)^5 + g_5(x-144)^6 + h_5(x-144)^7 + i_5(x-144)^8 + j_5(x-144)^9 +$
$k_5(x-144)^{14} + l_5(x-144)^{11} + m_5(x-144)^{14} + n_5(x-144)^{14} + \tilde{n}_5(x-144)^{14} +$
$o_5(x-144)^{15} + p_5(x-144)^{16} + q_5(x-144)^{17} + r_5(x-144)^{18} + s_5(x-144)^{19} +$
$t_5(x-144)^{44} + u_5(x-144)^{41} + v_5(x-144)^{44} + w_5(x-144)^{44} + x_5(x-144)^{144} +$
$y_5(x-144)^{45} + z_5(x-144)^{46} + A_5(x-144)^{47} + B_5(x-144)^{48} + C_5(x-144)^{49} +$
$D_5(x-144)^{44} + E_5(x-144)^{41} + F_5(x-144)^{44} + G_5(x-144)^{44} + H_5(x-144)^{44} +$
$I_5(x-144)^{45} + J_5(x-144)^{46} + K_5(x-144)^{47} + L_5(x-144)^{48} + M_5(x-144)^{49} +$
$N_5(x-144)^{44} + O_5(x-144)^{41} + P_5(x-144)^{44} + Q_5(x-144)^{44} + R_5(x-144)^{44} +$
$S_5(x-144)^{45} + T_5(x-144)^{46} + U_5(x-144)^{47} + V_5(x-144)^{144} + W_5(x-144)^{49} +$
$X_5(x-144)^{54} + Y_5(x-144)^{51} + Z_5(x-144)^{52}$

$s_6(x) = a_6 + b_6(x-168) + c_6(x-168)^2 + d_6(x-168)^3 + e_6(x-168)^4 +$
$f_6(x-168)^6 + g_6(x-168)^6 + h_6(x-168)^7 + i_6(x-168)^8 + j_6(x-168)^9 +$
$k_6(x-168)^{14} + l_6(x-168)^{11} + m_6(x-168)^{14} + n_6(x-168)^{14} + \tilde{n}_6(x-168)^{14} +$
$o_6(x-168)^{15} + p_6(x-168)^{16} + q_6(x-168)^{17} + r_6(x-168)^{18} + s_6(x-168)^{19} +$
$t_6(x-168)^{44} + u_6(x-168)^{41} + v_6(x-168)^{44} + w_6(x-168)^{44} + x_6(x-168)^{168} +$
$y_6(x-168)^{45} + z_6(x-168)^{46} + A_6(x-168)^{47} + B_6(x-168)^{48} + C_6(x-168)^{49} +$
$D_6(x-168)^{44} + E_6(x-168)^{41} + F_6(x-168)^{44} + G_6(x-168)^{44} + H_6(x-168)^{44} +$
$I_6(x-168)^{45} + J_6(x-168)^{46} + K_6(x-168)^{47} + L_6(x-168)^{48} + M_6(x-168)^{49} +$
$N_6(x-168)^{44} + O_6(x-168)^{41} + P_6(x-168)^{44} + Q_6(x-168)^{44} + R_6(x-168)^{44} +$
$S_6(x-168)^{45} + T_6(x-168)^{46} + U_6(x-168)^{47} + V_6(x-168)^{168} + W_6(x-168)^{49} +$
$X_6(x-168)^{54} + Y_6(x-168)^{51} + Z_6(x-168)^{52}$

$$s_7(x) = a_7 + b_7(x-192) + c_7(x-192)^2 + d_7(x-192)^3 + e_7(x-192)^4 + f_7(x-192)^5 + g_7(x-192)^6 + h_7(x-192)^7 + i_7(x-192)^8 + j_7(x-192)^9 + k_7(x-192)^{10} + l_7(x-192)^{11} + m_7(x-192)^{12} + n_7(x-192)^{13} + \tilde{n}_7(x-192)^{14} + o_7(x-192)^{15} + p_7(x-192)^{16} + q_7(x-192)^{17} + r_7(x-192)^{18} + s_7(x-192)^{19} + t_7(x-192)^{20} + u_7(x-192)^{21} + v_7(x-192)^{22} + w_7(x-192)^{23} + x_7(x-192)^{192} + y_7(x-192)^{25} + z_7(x-192)^{26} + A_7(x-192)^{27} + B_7(x-192)^{28} + C_7(x-192)^{29} + D_7(x-192)^{30} + E_7(x-192)^{31} + F_7(x-192)^{32} + G_7(x-192)^{33} + H_7(x-192)^{34} + I_7(x-192)^{35} + J_7(x-192)^{36} + K_7(x-192)^{37} + L_7(x-192)^{38} + M_7(x-192)^{39} + N_7(x-192)^{40} + O_7(x-192)^{41} + P_7(x-192)^{42} + Q_7(x-192)^{43} + R_7(x-192)^{44} + S_7(x-192)^{45} + T_7(x-192)^{46} + U_7(x-192)^{47} + V_7(x-192)^{192} + W_7(x-192)^{49} + X_7(x-192)^{50} + Y_7(x-192)^{51} + Z_7(x-192)^{52}$$

$$s_8(x) = a_8 + b_8(x-216) + c_8(x-216)^2 + d_8(x-216)^3 + e_8(x-216)^4 + f_8(x-216)^5 + g_8(x-216)^6 + h_8(x-216)^8 + i_8(x-216)^8 + j_8(x-216)^9 + k_8(x-216)^{10} + l_8(x-216)^{11} + m_8(x-216)^{12} + n_8(x-216)^{13} + \tilde{n}_8(x-216)^{14} + o_8(x-216)^{15} + p_8(x-216)^{16} + q_8(x-216)^{17} + r_8(x-216)^{18} + s_8(x-216)^{19} + t_8(x-216)^{20} + u_8(x-216)^{21} + v_8(x-216)^{22} + w_8(x-216)^{23} + x_8(x-216)^{216} + y_8(x-216)^{25} + z_8(x-216)^{26} + A_8(x-216)^{27} + B_8(x-216)^{28} + C_8(x-216)^{29} + D_8(x-216)^{30} + E_8(x-216)^{31} + F_8(x-216)^{32} + G_8(x-216)^{33} + H_8(x-216)^{34} + I_8(x-216)^{35} + J_8(x-216)^{36} + K_8(x-216)^{37} + L_8(x-216)^{38} + M_8(x-216)^{39} + N_8(x-216)^{40} + O_8(x-216)^{41} + P_8(x-216)^{42} + Q_8(x-216)^{43} + R_8(x-216)^{44} + S_8(x-216)^{45} + T_8(x-216)^{46} + U_8(x-216)^{47} + V_8(x-216)^{216} + W_8(x-216)^{49} + X_8(x-216)^{50} + Y_8(x-216)^{51} + Z_8(x-216)^{52}$$

$$s_9(x) = a_9 + b_9(x-240) + c_9(x-240)^2 + d_9(x-240)^3 + e_9(x-240)^4 + f_9(x-240)^5 + g_9(x-240)^6 + h_9(x-240)^9 + i_9(x-240)^9 + j_9(x-240)^9 + k_9(x-240)^{10} + l_9(x-240)^{11} + m_9(x-240)^{12} + n_9(x-240)^{13} + \tilde{n}_9(x-240)^{14} + o_9(x-240)^{15} + p_9(x-240)^{16} + q_9(x-240)^{17} + r_9(x-240)^{18} + s_9(x-240)^{19} + t_9(x-240)^{20} + u_9(x-240)^{21} + v_9(x-240)^{22} + w_9(x-240)^{23} + x_9(x-240)^{240} + y_9(x-240)^{25} + z_9(x-240)^{26} + A_9(x-240)^{27} + B_9(x-240)^{28} + C_9(x-240)^{29} + D_9(x-240)^{30} + E_9(x-240)^{31} + F_9(x-240)^{32} + G_9(x-240)^{33} + H_9(x-240)^{34} + I_9(x-240)^{35} + J_9(x-240)^{36} + K_9(x-240)^{37} + L_9(x-240)^{38} + M_9(x-240)^{39} + N_9(x-240)^{40} + O_9(x-240)^{41} + P_9(x-240)^{42} + Q_9(x-240)^{43} + R_9(x-240)^{44} + S_9(x-240)^{45} + T_9(x-240)^{46} + U_9(x-240)^{47} + V_9(x-240)^{240} + W_9(x-240)^{49} + X_9(x-240)^{50} + Y_9(x-240)^{51} + Z_9(x-240)^{52}$$

$$s_{10}(x) = a_{10} + b_{10}(x-264) + c_{10}(x-264)^2 + d_{10}(x-264)^3 + e_{10}(x-264)^4 + f_{10}(x-264)^5 + g_{10}(x-264)^6 + h_{10}(x-264)^{10} + i_{10}(x-264)^{10} + j_{10}(x-264)^{10} + k_{10}(x-264)^{10} + l_{10}(x-264)^{11} + m_{10}(x-264)^{12} + n_{10}(x-264)^{13} + \tilde{n}_{10}(x-264)^{14} + o_{10}(x-264)^{15} + p_{10}(x-264)^{16} + q_{10}(x-264)^{17} + r_{10}(x-264)^{18} + s_{10}(x-264)^{19} + t_{10}(x-264)^{20} + u_{10}(x-264)^{21} + v_{10}(x-264)^{22} + w_{10}(x-264)^{23} + x_{10}(x-264)^{264} + y_{10}(x-264)^{25} + z_{10}(x-264)^{26} + A_{10}(x-264)^{27} + B_{10}(x-264)^{28} + C_{10}(x-264)^{29} + D_{10}(x-264)^{30} + E_{10}(x-264)^{31} + F_{10}(x-264)^{32} + G_{10}(x-264)^{33} + H_{10}(x-264)^{34} + I_{10}(x-264)^{35} + J_{10}(x-264)^{36} + K_{10}(x-264)^{37} + L_{10}(x-264)^{38} + M_{10}(x-264)^{39} + N_{10}(x-264)^{40} + O_{10}(x-264)^{41} + P_{10}(x-264)^{42} + Q_{10}(x-264)^{43} + R_{10}(x-264)^{44} + S_{10}(x-264)^{45} + T_{10}(x-264)^{46} + U_{10}(x-264)^{47} + V_{10}(x-264)^{264} + W_{10}(x-264)^{49} + X_{10}(x-264)^{50} + Y_{10}(x-264)^{51} + Z_{10}(x-264)^{52}$$

$$s_{11}(x) = a_{11} + b_{11}(x-288) + c_{11}(x-288)^2 + d_{11}(x-288)^3 + e_{11}(x-288)^4 + f_{11}(x-288)^5 + g_{11}(x-288)^6 + h_{11}(x-288)^{11} + i_{11}(x-288)^{11} + j_{11}(x-288)^{11} + k_{11}(x-288)^{11} + l_{11}(x-288)^{11} + m_{11}(x-288)^{12} + n_{11}(x-288)^{13} + \tilde{n}_{11}(x-288)^{14} + o_{11}(x-288)^{15} + p_{11}(x-288)^{16} + q_{11}(x-288)^{17} + r_{11}(x-288)^{18} + s_{11}(x-288)^{19} + t_{11}(x-288)^{20} + u_{11}(x-288)^{21} + v_{11}(x-288)^{22} + w_{11}(x-288)^{23} + x_{11}(x-288)^{288} + y_{11}(x-288)^{25} + z_{11}(x-288)^{26} + A_{11}(x-288)^{27} + B_{11}(x-288)^{28} + C_{11}(x-288)^{29} + D_{11}(x-288)^{30} + E_{11}(x-288)^{31} + F_{11}(x-288)^{32} + G_{11}(x-288)^{33} + H_{11}(x-288)^{34} + I_{11}(x-288)^{35} + J_{11}(x-288)^{36} + K_{11}(x-288)^{37} + L_{11}(x-288)^{38} + M_{11}(x-288)^{39} + N_{11}(x-288)^{40} + O_{11}(x-288)^{41} + P_{11}(x-288)^{42} + Q_{11}(x-288)^{43} + R_{11}(x-288)^{44} + S_{11}(x-288)^{45} + T_{11}(x-288)^{46} + U_{11}(x-288)^{47} + V_{11}(x-288)^{288} + W_{11}(x-288)^{49} + X_{11}(x-288)^{50} + Y_{11}(x-288)^{51} + Z_{11}(x-288)^{52}$$

$$s_{12}(x) = a_{12} + b_{12}(x-312) + c_{12}(x-312)^2 + d_{12}(x-312)^3 + e_{12}(x-312)^4 + f_{12}(x-312)^5 + g_{12}(x-312)^6 + h_{12}(x-312)^{12} + i_{12}(x-312)^{12} + j_{12}(x-312)^{12} + k_{12}(x-312)^{12} + l_{12}(x-312)^{12} + m_{12}(x-312)^{12} + n_{12}(x-312)^{13} + \tilde{n}_{12}(x-312)^{14} + o_{12}(x-312)^{15} + p_{12}(x-312)^{16} + q_{12}(x-312)^{17} + r_{12}(x-312)^{18} + s_{12}(x-312)^{19} + t_{12}(x-312)^{20} + u_{12}(x-312)^{21} + v_{12}(x-312)^{22} + w_{12}(x-312)^{23} + x_{12}(x-312)^{312} + y_{12}(x-312)^{25} + z_{12}(x-312)^{26} + A_{12}(x-312)^{27} + B_{12}(x-312)^{28} + C_{12}(x-312)^{29} + D_{12}(x-312)^{30} + E_{12}(x-312)^{31} + F_{12}(x-312)^{32} + G_{12}(x-312)^{33} + H_{12}(x-312)^{34} + I_{12}(x-312)^{35} + J_{12}(x-312)^{36} + K_{12}(x-312)^{37} + L_{12}(x-312)^{38} + M_{12}(x-312)^{39} + N_{12}(x-312)^{40} + O_{12}(x-312)^{41} + P_{12}(x-312)^{42} + Q_{12}(x-312)^{43} + R_{12}(x-312)^{44} + S_{12}(x-312)^{45} + T_{12}(x-312)^{46} + U_{12}(x-312)^{47} + V_{12}(x-312)^{312} + W_{12}(x-312)^{49} + X_{12}(x-312)^{50} + Y_{12}(x-312)^{51} + Z_{12}(x-312)^{52}$$

$$s_{13}(x) = a_{13} + b_{13}(x-336) + c_{13}(x-336)^2 + d_{13}(x-336)^3 + e_{13}(x-336)^4 + f_{13}(x-336)^5 + g_{13}(x-336)^6 + h_{13}(x-336)^{13} + i_{13}(x-336)^{13} + j_{13}(x-336)^{13} + k_{13}(x-336)^{13} + l_{13}(x-336)^{13} + m_{13}(x-336)^{13} + n_{13}(x-336)^{13} + \tilde{n}_{13}(x-336)^{14} + o_{13}(x-336)^{15} + p_{13}(x-336)^{16} + q_{13}(x-336)^{17} + r_{13}(x-336)^{18} + s_{13}(x-336)^{19} + t_{13}(x-336)^{20} + u_{13}(x-336)^{21} + v_{13}(x-336)^{22} + w_{13}(x-336)^{23} + x_{13}(x-336)^{24} + y_{13}(x-336)^{25} + z_{13}(x-336)^{26} + A_{13}(x-336)^{27} + B_{13}(x-336)^{28} + C_{13}(x-336)^{29} + D_{13}(x-336)^{30} + E_{13}(x-336)^{31} + F_{13}(x-336)^{32} + G_{13}(x-336)^{33} + H_{13}(x-336)^{34} + I_{13}(x-336)^{35} + J_{13}(x-336)^{36} + K_{13}(x-336)^{37} + L_{13}(x-336)^{38} + M_{13}(x-336)^{39} + N_{13}(x-336)^{40} + O_{13}(x-336)^{41} + P_{13}(x-336)^{42} + Q_{13}(x-336)^{43} + R_{13}(x-336)^{44} + S_{13}(x-336)^{45} + T_{13}(x-336)^{46} + U_{13}(x-336)^{47} + V_{13}(x-336)^{336} + W_{13}(x-336)^{49} + X_{13}(x-336)^{50} + Y_{13}(x-336)^{51} + Z_{13}(x-336)^{52}$$

$$s_{14}(x) = a_{14} + b_{14}(x-360) + c_{14}(x-360)^2 + d_{14}(x-360)^3 + e_{14}(x-360)^4 + f_{14}(x-360)^5 + g_{14}(x-360)^6 + h_{14}(x-360)^{14} + i_{14}(x-360)^{14} + j_{14}(x-360)^{14} + k_{14}(x-360)^{14} + l_{14}(x-360)^{14} + m_{14}(x-360)^{14} + n_{14}(x-360)^{14} + \tilde{n}_{14}(x-360)^{14} + o_{14}(x-360)^{15} + p_{14}(x-360)^{16} + q_{14}(x-360)^{17} + r_{14}(x-360)^{18} + s_{14}(x-360)^{19} + t_{14}(x-360)^{20} + u_{14}(x-360)^{21} + v_{14}(x-360)^{22} + w_{14}(x-360)^{23} + x_{14}(x-360)^{24} + y_{14}(x-360)^{25} + z_{14}(x-360)^{26} + A_{14}(x-360)^{27} + B_{14}(x-360)^{28} + C_{14}(x-360)^{29} + D_{14}(x-360)^{30} + E_{14}(x-360)^{31} + F_{14}(x-360)^{32} + G_{14}(x-360)^{33} + H_{14}(x-360)^{34} + I_{14}(x-360)^{35} + J_{14}(x-360)^{36} + K_{14}(x-360)^{37} + L_{14}(x-360)^{38} + M_{14}(x-360)^{39} + N_{14}(x-360)^{40} + O_{14}(x-360)^{41} + P_{14}(x-360)^{42} + Q_{14}(x-360)^{43} + R_{14}(x-360)^{44} + S_{14}(x-360)^{45} + T_{14}(x-360)^{46} + U_{14}(x-360)^{47} + V_{14}(x-360)^{360} + W_{14}(x-360)^{49} + X_{14}(x-360)^{50} + Y_{14}(x-360)^{51} + Z_{14}(x-360)^{52}$$

$$s_{15}(x) = a_{15} + b_{15}(x-384) + c_{15}(x-384)^2 + d_{15}(x-384)^3 + e_{15}(x-384)^4 + f_{15}(x-384)^5 + g_{15}(x-384)^6 + h_{15}(x-384)^{15} + i_{15}(x-384)^{15} + j_{15}(x-384)^{15} + k_{15}(x-384)^{15} + l_{15}(x-384)^{15} + m_{15}(x-384)^{15} + n_{15}(x-384)^{15} + \tilde{n}_{15}(x-384)^{15} + o_{15}(x-384)^{15} + p_{15}(x-384)^{16} + q_{15}(x-384)^{17} + r_{15}(x-384)^{18} + s_{15}(x-384)^{19} + t_{15}(x-384)^{20} + u_{15}(x-384)^{21} + v_{15}(x-384)^{22} + w_{15}(x-384)^{23} + x_{15}(x-384)^{24} + y_{15}(x-384)^{25} + z_{15}(x-384)^{26} + A_{15}(x-384)^{27} + B_{15}(x-384)^{28} + C_{15}(x-384)^{29} + D_{15}(x-384)^{30} + E_{15}(x-384)^{31} + F_{15}(x-384)^{32} + G_{15}(x-384)^{33} + H_{15}(x-384)^{34} + I_{15}(x-384)^{35} + J_{15}(x-384)^{36} + K_{15}(x-384)^{37} + L_{15}(x-384)^{38} + M_{15}(x-384)^{39} + N_{15}(x-384)^{40} + O_{15}(x-384)^{41} + P_{15}(x-384)^{42} + Q_{15}(x-384)^{43} + R_{15}(x-384)^{44} + S_{15}(x-384)^{45} + T_{15}(x-384)^{46} + U_{15}(x-384)^{47} + V_{15}(x-384)^{384} + W_{15}(x-384)^{49} + X_{15}(x-384)^{50} + Y_{15}(x-384)^{51} + Z_{15}(x-384)^{52}$$

$$s_{16}(x) = a_{16} + b_{16}(x-408) + c_{16}(x-408)^2 + d_{16}(x-408)^3 + e_{16}(x-408)^4 + f_{16}(x-408)^5 + g_{16}(x-408)^6 + h_{16}(x-408)^{16} + i_{16}(x-408)^{16} + j_{16}(x-408)^{16} + k_{16}(x-408)^{16} + l_{16}(x-408)^{16} + m_{16}(x-408)^{16} + n_{16}(x-408)^{16} + \tilde{n}_{16}(x-408)^{16} + o_{16}(x-408)^{16} + p_{16}(x-408)^{16} + q_{16}(x-408)^{17} + r_{16}(x-408)^{18} + s_{16}(x-408)^{19} + t_{16}(x-408)^{20} + u_{16}(x-408)^{21} + v_{16}(x-408)^{22} + w_{16}(x-408)^{23} + x_{16}(x-408)^{24} + y_{16}(x-408)^{25} + z_{16}(x-408)^{26} + A_{16}(x-408)^{27} + B_{16}(x-408)^{28} + C_{16}(x-408)^{29} + D_{16}(x-408)^{30} + E_{16}(x-408)^{31} + F_{16}(x-408)^{32} + G_{16}(x-408)^{33} + H_{16}(x-408)^{34} + I_{16}(x-408)^{35} + J_{16}(x-408)^{36} + K_{16}(x-408)^{37} + L_{16}(x-408)^{38} + M_{16}(x-408)^{39} + N_{16}(x-408)^{40} + O_{16}(x-408)^{41} + P_{16}(x-408)^{42} + Q_{16}(x-408)^{43} + R_{16}(x-408)^{44} + S_{16}(x-408)^{45} + T_{16}(x-408)^{46} + U_{16}(x-408)^{47} + V_{16}(x-408)^{408} + W_{16}(x-408)^{49} + X_{16}(x-408)^{50} + Y_{16}(x-408)^{51} + Z_{16}(x-408)^{52}$$

$$s_{17}(x) = a_{17} + b_{17}(x-432) + c_{17}(x-432)^2 + d_{17}(x-432)^3 + e_{17}(x-432)^4 + f_{17}(x-432)^5 + g_{17}(x-432)^6 + h_{17}(x-432)^{17} + i_{17}(x-432)^{17} + j_{17}(x-432)^{17} + k_{17}(x-432)^{17} + l_{17}(x-432)^{17} + m_{17}(x-432)^{17} + n_{17}(x-432)^{17} + \tilde{n}_{17}(x-432)^{17} + o_{17}(x-432)^{17} + p_{17}(x-432)^{17} + q_{17}(x-432)^{17} + r_{17}(x-432)^{18} + s_{17}(x-432)^{19} + t_{17}(x-432)^{20} + u_{17}(x-432)^{21} + v_{17}(x-432)^{22} + w_{17}(x-432)^{23} + x_{17}(x-432)^{24} + y_{17}(x-432)^{25} + z_{17}(x-432)^{26} + A_{17}(x-432)^{27} + B_{17}(x-432)^{28} + C_{17}(x-432)^{29} + D_{17}(x-432)^{30} + E_{17}(x-432)^{31} + F_{17}(x-432)^{32} + G_{17}(x-432)^{33} + H_{17}(x-432)^{34} + I_{17}(x-432)^{35} + J_{17}(x-432)^{36} + K_{17}(x-432)^{37} + L_{17}(x-432)^{38} + M_{17}(x-432)^{39} + N_{17}(x-432)^{40} + O_{17}(x-432)^{41} + P_{17}(x-432)^{42} + Q_{17}(x-432)^{43} + R_{17}(x-432)^{44} + S_{17}(x-432)^{45} + T_{17}(x-432)^{46} + U_{17}(x-432)^{47} + V_{17}(x-432)^{432} + W_{17}(x-432)^{49} + X_{17}(x-432)^{50} + Y_{17}(x-432)^{51} + Z_{17}(x-432)^{52}$$

$$s_{18}(x) = a_{18} + b_{18}(x-456) + c_{18}(x-456)^2 + d_{18}(x-456)^3 + e_{18}(x-456)^4 + f_{18}(x-456)^5 + g_{18}(x-456)^6 + h_{18}(x-456)^{18} + i_{18}(x-456)^{18} + j_{18}(x-456)^{18} +$$

$k_{18}(x-456)^{18}+l_{18}(x-456)^{18}+m_{18}(x-456)^{18}+n_{18}(x-456)^{18}+\tilde{n}_{18}(x-456)^{18}+o_{18}(x-456)^{18}+p_{18}(x-456)^{18}+q_{18}(x-456)^{18}+r_{18}(x-456)^{18}+s_{18}(x-456)^{19}+t_{18}(x-456)^{20}+u_{18}(x-456)^{21}+v_{18}(x-456)^{22}+w_{18}(x-456)^{23}+x_{18}(x-456)^{24}+y_{18}(x-456)^{25}+z_{18}(x-456)^{26}+A_{18}(x-456)^{27}+B_{18}(x-456)^{28}+C_{18}(x-456)^{29}+D_{18}(x-456)^{30}+E_{18}(x-456)^{31}+F_{18}(x-456)^{32}+G_{18}(x-456)^{33}+H_{18}(x-456)^{34}+I_{18}(x-456)^{35}+J_{18}(x-456)^{36}+K_{18}(x-456)^{37}+L_{18}(x-456)^{38}+M_{18}(x-456)^{39}+N_{18}(x-456)^{40}+O_{18}(x-456)^{41}+P_{18}(x-456)^{42}+Q_{18}(x-456)^{43}+R_{18}(x-456)^{44}+S_{18}(x-456)^{45}+T_{18}(x-456)^{46}+U_{18}(x-456)^{47}+V_{18}(x-456)^{456}+W_{18}(x-456)^{49}+X_{18}(x-456)^{50}+Y_{18}(x-456)^{51}+Z_{18}(x-456)^{52}$

$s_{19}(x)=a_{19}+b_{19}(x-480)+c_{19}(x-480)^2+d_{19}(x-480)^3+e_{19}(x-480)^4+f_{19}(x-480)^5+g_{19}(x-480)^6+h_{19}(x-480)^{19}+i_{19}(x-480)^{19}+j_{19}(x-480)^{19}+k_{19}(x-480)^{19}+l_{19}(x-480)^{19}+m_{19}(x-480)^{19}+n_{19}(x-480)^{19}+\tilde{n}_{19}(x-480)^{19}+o_{19}(x-480)^{19}+p_{19}(x-480)^{19}+q_{19}(x-480)^{19}+r_{19}(x-480)^{19}+s_{19}(x-480)^{19}+t_{19}(x-480)^{20}+u_{19}(x-480)^{21}+v_{19}(x-480)^{22}+w_{19}(x-480)^{23}+x_{19}(x-480)^{24}+y_{19}(x-480)^{25}+z_{19}(x-480)^{26}+A_{19}(x-480)^{27}+B_{19}(x-480)^{28}+C_{19}(x-480)^{29}+D_{19}(x-480)^{30}+E_{19}(x-480)^{31}+F_{19}(x-480)^{32}+G_{19}(x-480)^{33}+H_{19}(x-480)^{34}+I_{19}(x-480)^{35}+J_{19}(x-480)^{36}+K_{19}(x-480)^{37}+L_{19}(x-480)^{38}+M_{19}(x-480)^{39}+N_{19}(x-480)^{40}+O_{19}(x-480)^{41}+P_{19}(x-480)^{42}+Q_{19}(x-480)^{43}+R_{19}(x-480)^{44}+S_{19}(x-480)^{45}+T_{19}(x-480)^{46}+U_{19}(x-480)^{47}+V_{19}(x-480)^{480}+W_{19}(x-480)^{49}+X_{19}(x-480)^{50}+Y_{19}(x-480)^{51}+Z_{19}(x-480)^{52}$

$s_{20}(x)=a_{20}+b_{20}(x-504)+c_{20}(x-504)^2+d_{20}(x-504)^3+e_{20}(x-504)^4+f_{20}(x-504)^5+g_{20}(x-504)^6+h_{20}(x-504)^7+i_{20}(x-504)^8+j_{20}(x-504)^{20}+k_{20}(x-504)^{20}+l_{20}(x-504)^{20}+m_{20}(x-504)^{20}+n_{20}(x-504)^{20}+\tilde{n}_{20}(x-504)^{20}+o_{20}(x-504)^{20}+p_{20}(x-504)^{20}+q_{20}(x-504)^{20}+r_{20}(x-504)^{20}+s_{20}(x-504)^{20}+t_{20}(x-504)^{20}+u_{20}(x-504)^{21}+v_{20}(x-504)^{22}+w_{20}(x-504)^{23}+x_{20}(x-504)^{24}+y_{20}(x-504)^{25}+z_{20}(x-504)^{26}+A_{20}(x-504)^{27}+B_{20}(x-504)^{28}+C_{20}(x-504)^{29}+D_{20}(x-504)^{30}+E_{20}(x-504)^{31}+F_{20}(x-504)^{32}+G_{20}(x-504)^{33}+H_{20}(x-504)^{34}+I_{20}(x-504)^{35}+J_{20}(x-504)^{36}+K_{20}(x-504)^{37}+L_{20}(x-504)^{38}+M_{20}(x-504)^{39}+N_{20}(x-504)^{40}+O_{20}(x-504)^{41}+P_{20}(x-504)^{42}+Q_{20}(x-504)^{43}+R_{20}(x-504)^{44}+S_{20}(x-504)^{45}+T_{20}(x-504)^{46}+U_{20}(x-504)^{47}+V_{20}(x-504)^{504}+W_{20}(x-504)^{49}+X_{20}(x-504)^{50}+Y_{20}(x-504)^{51}+Z_{20}(x-504)^{52}$

$s_{21}(x)=a_{21}+b_{21}(x-528)+c_{21}(x-528)^2+d_{21}(x-528)^3+e_{21}(x-528)^4+f_{21}(x-528)^5+g_{21}(x-528)^6+h_{21}(x-528)^{21}+i_{21}(x-528)^{21}+j_{21}(x-528)^{21}+k_{21}(x-528)^{21}+l_{21}(x-528)^{21}+m_{21}(x-528)^{21}+n_{21}(x-528)^{21}+\tilde{n}_{21}(x-528)^{21}+o_{21}(x-528)^{21}+p_{21}(x-528)^{21}+q_{21}(x-528)^{21}+r_{21}(x-528)^{21}+s_{21}(x-528)^{21}+t_{21}(x-528)^{21}+u_{21}(x-528)^{21}+v_{21}(x-528)^{22}+w_{21}(x-528)^{23}+x_{21}(x-528)^{24}+y_{21}(x-528)^{25}+z_{21}(x-528)^{26}+A_{21}(x-528)^{27}+B_{21}(x-528)^{28}+C_{21}(x-528)^{29}+D_{21}(x-528)^{30}+E_{21}(x-528)^{31}+F_{21}(x-528)^{32}+G_{21}(x-528)^{33}+H_{21}(x-528)^{34}+I_{21}(x-528)^{35}+J_{21}(x-528)^{36}+K_{21}(x-528)^{37}+L_{21}(x-528)^{38}+M_{21}(x-528)^{39}+N_{21}(x-528)^{40}+O_{21}(x-528)^{41}+P_{21}(x-528)^{42}+Q_{21}(x-528)^{43}+R_{21}(x-528)^{44}+S_{21}(x-528)^{45}+T_{21}(x-528)^{46}+U_{21}(x-528)^{47}+V_{21}(x-528)^{528}+W_{21}(x-528)^{49}+X_{21}(x-528)^{50}+Y_{21}(x-528)^{51}+Z_{21}(x-528)^{52}$

$$s_{22}(x) = a_{22} + b_{22}(x-552) + c_{22}(x-552)^2 + d_{22}(x-552)^3 + e_{22}(x-552)^4 + f_{22}(x-552)^5 + g_{22}(x-552)^6 + h_{22}(x-552)^{22} + i_{22}(x-552)^{22} + j_{22}(x-552)^{22} + k_{22}(x-552)^{22} + l_{22}(x-552)^{22} + m_{22}(x-552)^{22} + n_{22}(x-552)^{22} + \tilde{n}_{22}(x-552)^{22} + o_{22}(x-552)^{22} + p_{22}(x-552)^{22} + q_{22}(x-552)^{22} + r_{22}(x-552)^{22} + s_{22}(x-552)^{22} + t_{22}(x-552)^{22} + u_{22}(x-552)^{22} + v_{22}(x-552)^{22} + w_{22}(x-552)^{23} + x_{22}(x-552)^{24} + y_{22}(x-552)^{25} + z_{22}(x-552)^{26} + A_{22}(x-552)^{27} + B_{22}(x-552)^{28} + C_{22}(x-552)^{29} + D_{22}(x-552)^{30} + E_{22}(x-552)^{31} + F_{22}(x-552)^{32} + G_{22}(x-552)^{33} + H_{22}(x-552)^{34} + I_{22}(x-552)^{35} + J_{22}(x-552)^{36} + K_{22}(x-552)^{37} + L_{22}(x-552)^{38} + M_{22}(x-552)^{39} + N_{22}(x-552)^{40} + O_{22}(x-552)^{41} + P_{22}(x-552)^{42} + Q_{22}(x-552)^{43} + R_{22}(x-552)^{44} + S_{22}(x-552)^{45} + T_{22}(x-552)^{46} + U_{22}(x-552)^{47} + V_{22}(x-552)^{552} + W_{22}(x-552)^{49} + X_{22}(x-552)^{50} + Y_{22}(x-552)^{51} + Z_{22}(x-552)^{52}$$

$$s_{23}(x) = a_{23} + b_{23}(x-576) + c_{23}(x-576)^2 + d_{23}(x-576)^3 + e_{23}(x-576)^4 + f_{23}(x-576)^5 + g_{23}(x-576)^6 + h_{23}(x-576)^7 + i_{23}(x-576)^8 + j_{23}(x-576)^{23} + k_{23}(x-576)^{23} + l_{23}(x-576)^{23} + m_{23}(x-576)^{23} + n_{23}(x-576)^{23} + \tilde{n}_{23}(x-576)^{23} + o_{23}(x-576)^{23} + p_{23}(x-576)^{23} + q_{23}(x-576)^{23} + r_{23}(x-576)^{23} + s_{23}(x-576)^{23} + t_{23}(x-576)^{23} + u_{23}(x-576)^{23} + v_{23}(x-576)^{23} + w_{23}(x-576)^{23} + x_{23}(x-576)^{24} + y_{23}(x-576)^{25} + z_{23}(x-576)^{26} + A_{23}(x-576)^{27} + B_{23}(x-576)^{28} + C_{23}(x-576)^{29} + D_{23}(x-576)^{30} + E_{23}(x-576)^{31} + F_{23}(x-576)^{32} + G_{23}(x-576)^{33} + H_{23}(x-576)^{34} + I_{23}(x-576)^{35} + J_{23}(x-576)^{36} + K_{23}(x-576)^{37} + L_{23}(x-576)^{38} + M_{23}(x-576)^{39} + N_{23}(x-576)^{40} + O_{23}(x-576)^{41} + P_{23}(x-576)^{42} + Q_{23}(x-576)^{43} + R_{23}(x-576)^{44} + S_{23}(x-576)^{45} + T_{23}(x-576)^{46} + U_{23}(x-576)^{47} + V_{23}(x-576)^{576} + W_{23}(x-576)^{49} + X_{23}(x-576)^{50} + Y_{23}(x-576)^{51} + Z_{23}(x-576)^{52}$$

$$s_{24}(x) = a_{24} + b_{24}(x-600) + c_{24}(x-600)^2 + d_{24}(x-600)^3 + e_{24}(x-600)^4 + f_{24}(x-600)^5 + g_{24}(x-600)^6 + h_{24}(x-600)^{24} + i_{24}(x-600)^{24} + j_{24}(x-600)^{24} + k_{24}(x-600)^{24} + l_{24}(x-600)^{24} + m_{24}(x-600)^{24} + n_{24}(x-600)^{24} + \tilde{n}_{24}(x-600)^{24} + o_{24}(x-600)^{24} + p_{24}(x-600)^{24} + q_{24}(x-600)^{24} + r_{24}(x-600)^{24} + s_{24}(x-600)^{24} + t_{24}(x-600)^{24} + u_{24}(x-600)^{24} + v_{24}(x-600)^{24} + w_{24}(x-600)^{24} + x_{24}(x-600)^{24} + y_{24}(x-600)^{25} + z_{24}(x-600)^{26} + A_{24}(x-600)^{27} + B_{24}(x-600)^{28} + C_{24}(x-600)^{29} + D_{24}(x-600)^{30} + E_{24}(x-600)^{31} + F_{24}(x-600)^{32} + G_{24}(x-600)^{33} + H_{24}(x-600)^{34} + I_{24}(x-600)^{35} + J_{24}(x-600)^{36} + K_{24}(x-600)^{37} + L_{24}(x-600)^{38} + M_{24}(x-600)^{39} + N_{24}(x-600)^{40} + O_{24}(x-600)^{41} + P_{24}(x-600)^{42} + Q_{24}(x-600)^{43} + R_{24}(x-600)^{44} + S_{24}(x-600)^{45} + T_{24}(x-600)^{46} + U_{24}(x-600)^{47} + V_{24}(x-600)^{600} + W_{24}(x-600)^{49} + X_{24}(x-600)^{50} + Y_{24}(x-600)^{51} + Z_{24}(x-600)^{52}$$

$$s_{25}(x) = a_{25} + b_{25}(x-624) + c_{25}(x-624)^2 + d_{25}(x-624)^3 + e_{25}(x-624)^4 + f_{25}(x-624)^5 + g_{25}(x-624)^6 + h_{25}(x-624)^{25} + i_{25}(x-624)^{25} + j_{25}(x-624)^{25} + k_{25}(x-624)^{25} + l_{25}(x-624)^{25} + m_{25}(x-624)^{25} + n_{25}(x-624)^{25} + \tilde{n}_{25}(x-624)^{25} + o_{25}(x-624)^{25} + p_{25}(x-624)^{25} + q_{25}(x-624)^{25} + r_{25}(x-624)^{25} + s_{25}(x-624)^{25} + t_{25}(x-624)^{25} + u_{25}(x-624)^{25} + v_{25}(x-624)^{25} + w_{25}(x-624)^{25} + x_{25}(x-624)^{25} + y_{25}(x-624)^{25} + z_{25}(x-624)^{26} + A_{25}(x-624)^{27} + B_{25}(x-624)^{28} + C_{25}(x-624)^{29} + D_{25}(x-624)^{30} + E_{25}(x-624)^{31} + F_{25}(x-624)^{32} + G_{25}(x-624)^{33} + H_{25}(x-624)^{34} + I_{25}(x-624)^{35} + J_{25}(x-624)^{36} + K_{25}(x-624)^{37} + L_{25}(x-624)^{38} + M_{25}(x-624)^{39} + N_{25}(x-624)^{40} + O_{25}(x-624)^{41} + P_{25}(x-624)^{42} + Q_{25}(x-624)^{43} + R_{25}(x-624)^{44} + S_{25}(x-624)^{45} + T_{25}(x-624)^{46} + U_{25}(x-624)^{47} + V_{25}(x-624)^{624} + W_{25}(x-624)^{49} + X_{25}(x-624)^{50} + Y_{25}(x-624)^{51} + Z_{25}(x-624)^{52}$$

$$s_{26}(x) = a_{26} + b_{26}(x-648) + c_{26}(x-648)^2 + d_{26}(x-648)^3 + e_{26}(x-648)^4 + f_{26}(x-648)^5 + g_{26}(x-648)^6 + h_{26}(x-648)^{26} + i_{26}(x-648)^{26} + j_{26}(x-648)^{26} + k_{26}(x-648)^{26} + l_{26}(x-648)^{26} + m_{26}(x-648)^{26} + n_{26}(x-648)^{26} + \tilde{n}_{26}(x-648)^{26} + o_{26}(x-648)^{26} + p_{26}(x-648)^{26} + q_{26}(x-648)^{26} + r_{26}(x-648)^{26} + s_{26}(x-648)^{26} + t_{26}(x-648)^{26} + u_{26}(x-648)^{26} + v_{26}(x-648)^{26} + w_{26}(x-648)^{26} + x_{26}(x-648)^{26} + y_{26}(x-648)^{26} + z_{26}(x-648)^{26} + A_{26}(x-648)^{27} + B_{26}(x-648)^{28} + C_{26}(x-648)^{29} + D_{26}(x-648)^{30} + E_{26}(x-648)^{31} + F_{26}(x-648)^{32} + G_{26}(x-648)^{33} + H_{26}(x-648)^{34} + I_{26}(x-648)^{35} + J_{26}(x-648)^{36} + K_{26}(x-648)^{37} + L_{26}(x-648)^{38} + M_{26}(x-648)^{39} + N_{26}(x-648)^{40} + O_{26}(x-648)^{41} + P_{26}(x-648)^{42} + Q_{26}(x-648)^{43} + R_{26}(x-648)^{44} + S_{26}(x-648)^{45} + T_{26}(x-648)^{46} + U_{26}(x-648)^{47} + V_{26}(x-648)^{648} + W_{26}(x-648)^{49} + X_{26}(x-648)^{50} + Y_{26}(x-648)^{51} + Z_{26}(x-648)^{52}$$

$$s_{27}(x) = a_{27} + b_{27}(x-672) + c_{27}(x-672)^2 + d_{27}(x-672)^3 + e_{27}(x-672)^4 + f_{27}(x-672)^5 + g_{27}(x-672)^6 + h_{27}(x-672)^{27} + i_{27}(x-672)^{27} + j_{27}(x-672)^{27} + k_{27}(x-672)^{27} + l_{27}(x-672)^{27} + m_{27}(x-672)^{27} + n_{27}(x-672)^{27} + \tilde{n}_{27}(x-672)^{27} + o_{27}(x-672)^{27} + p_{27}(x-672)^{27} + q_{27}(x-672)^{27} + r_{27}(x-672)^{27} + s_{27}(x-672)^{27} + t_{27}(x-672)^{27} + u_{27}(x-672)^{27} + v_{27}(x-672)^{27} + w_{27}(x-672)^{27} + x_{27}(x-672)^{27} + y_{27}(x-672)^{27} + z_{27}(x-672)^{27} + A_{27}(x-672)^{27} + B_{27}(x-672)^{28} + C_{27}(x-672)^{29} + D_{27}(x-672)^{30} + E_{27}(x-672)^{31} + F_{27}(x-672)^{32} + G_{27}(x-672)^{33} + H_{27}(x-672)^{34} + I_{27}(x-672)^{35} + J_{27}(x-672)^{36} + K_{27}(x-672)^{37} + L_{27}(x-672)^{38} + M_{27}(x-672)^{39} + N_{27}(x-672)^{40} + O_{27}(x-672)^{41} + P_{27}(x-672)^{42} + Q_{27}(x-672)^{43} + R_{27}(x-672)^{44} + S_{27}(x-672)^{45} + T_{27}(x-672)^{46} + U_{27}(x-672)^{47} + V_{27}(x-672)^{672} + W_{27}(x-672)^{49} + X_{27}(x-672)^{50} + Y_{27}(x-672)^{51} + Z_{27}(x-672)^{52}$$

$$s_{28}(x) = a_{28} + b_{28}(x-696) + c_{28}(x-696)^2 + d_{28}(x-696)^3 + e_{28}(x-696)^4 + f_{28}(x-696)^5 + g_{28}(x-696)^6 + h_{28}(x-696)^{28} + i_{28}(x-696)^{28} + j_{28}(x-696)^{28} + k_{28}(x-696)^{28} + l_{28}(x-696)^{28} + m_{28}(x-696)^{28} + n_{28}(x-696)^{28} + \tilde{n}_{28}(x-696)^{28} + o_{28}(x-696)^{28} + p_{28}(x-696)^{28} + q_{28}(x-696)^{28} + r_{28}(x-696)^{28} + s_{28}(x-696)^{28} + t_{28}(x-696)^{28} + u_{28}(x-696)^{28} + v_{28}(x-696)^{28} + w_{28}(x-696)^{28} + x_{28}(x-696)^{28} + y_{28}(x-696)^{28} + z_{28}(x-696)^{28} + A_{28}(x-696)^{28} + B_{28}(x-696)^{28} + C_{28}(x-696)^{29} + D_{28}(x-696)^{30} + E_{28}(x-696)^{31} + F_{28}(x-696)^{32} + G_{28}(x-696)^{33} + H_{28}(x-696)^{34} + I_{28}(x-696)^{35} + J_{28}(x-696)^{36} + K_{28}(x-696)^{37} + L_{28}(x-696)^{38} + M_{28}(x-696)^{39} + N_{28}(x-696)^{40} + O_{28}(x-696)^{41} + P_{28}(x-696)^{42} + Q_{28}(x-696)^{43} + R_{28}(x-696)^{44} + S_{28}(x-696)^{45} + T_{28}(x-696)^{46} + U_{28}(x-696)^{47} + V_{28}(x-696)^{696} + W_{28}(x-696)^{49} + X_{28}(x-696)^{50} + Y_{28}(x-696)^{51} + Z_{28}(x-696)^{52}$$

$$s_{29}(x) = a_{29} + b_{29}(x-720) + c_{29}(x-720)^2 + d_{29}(x-720)^3 + e_{29}(x-720)^4 + f_{29}(x-720)^5 + g_{29}(x-720)^6 + h_{29}(x-720)^{29} + i_{29}(x-720)^{29} + j_{29}(x-720)^{29} + k_{29}(x-720)^{29} + l_{29}(x-720)^{29} + m_{29}(x-720)^{29} + n_{29}(x-720)^{29} + \tilde{n}_{29}(x-720)^{29} + o_{29}(x-720)^{29} + p_{29}(x-720)^{29} + q_{29}(x-720)^{29} + r_{29}(x-720)^{29} + s_{29}(x-720)^{29} + t_{29}(x-720)^{29} + u_{29}(x-720)^{29} + v_{29}(x-720)^{29} + w_{29}(x-720)^{29} + x_{29}(x-720)^{29} + y_{29}(x-720)^{29} + z_{29}(x-720)^{29} + A_{29}(x-720)^{29} + B_{29}(x-720)^{29} + C_{29}(x-720)^{29} + D_{29}(x-720)^{30} + E_{29}(x-720)^{31} + F_{29}(x-720)^{32} + G_{29}(x-720)^{33} + H_{29}(x-720)^{34} + I_{29}(x-720)^{35} + J_{29}(x-720)^{36} + K_{29}(x-720)^{37} + L_{29}(x-720)^{38} + M_{29}(x-720)^{39} + N_{29}(x-720)^{40} + O_{29}(x-720)^{41} + P_{29}(x-720)^{42} + Q_{29}(x-720)^{43} + R_{29}(x-720)^{44} + S_{29}(x-720)^{45} + T_{29}(x-720)^{46} + U_{29}(x-720)^{47} + V_{29}(x-720)^{720} + W_{29}(x-720)^{49} + X_{29}(x-720)^{50} + Y_{29}(x-720)^{51} + Z_{29}(x-720)^{52}$$

$$s_{30}(x) = a_{30} + b_{30}(x-744) + c_{30}(x-744)^2 + d_{30}(x-744)^3 + e_{30}(x-744)^4 + f_{30}(x-744)^5 + g_{30}(x-744)^6 + h_{30}(x-744)^{30} + i_{30}(x-744)^{30} + j_{30}(x-744)^{30} + k_{30}(x-744)^{30} + l_{30}(x-744)^{30} + m_{30}(x-744)^{30} + n_{30}(x-744)^{30} + \tilde{n}_{30}(x-744)^{30} + o_{30}(x-744)^{30} + p_{30}(x-744)^{30} + q_{30}(x-744)^{30} + r_{30}(x-744)^{30} + s_{30}(x-744)^{30} + t_{30}(x-744)^{30} + u_{30}(x-744)^{30} + v_{30}(x-744)^{30} + w_{30}(x-744)^{30} + x_{30}(x-744)^{30} + y_{30}(x-744)^{30} + z_{30}(x-744)^{30} + A_{30}(x-744)^{30} + B_{30}(x-744)^{30} + C_{30}(x-744)^{30} + D_{30}(x-744)^{30} + E_{30}(x-744)^{31} + F_{30}(x-744)^{32} + G_{30}(x-744)^{33} + H_{30}(x-744)^{34} + I_{30}(x-744)^{35} + J_{30}(x-744)^{36} + K_{30}(x-744)^{37} + L_{30}(x-744)^{38} + M_{30}(x-744)^{39} + N_{30}(x-744)^{40} + O_{30}(x-744)^{41} + P_{30}(x-744)^{42} + Q_{30}(x-744)^{43} + R_{30}(x-744)^{44} + S_{30}(x-744)^{45} + T_{30}(x-744)^{46} + U_{30}(x-744)^{47} + V_{30}(x-744)^{744} + W_{30}(x-744)^{49} + X_{30}(x-744)^{50} + Y_{30}(x-744)^{51} + Z_{30}(x-744)^{52}$$

$$s_{31}(x) = a_{31} + b_{31}(x-768) + c_{31}(x-768)^2 + d_{31}(x-768)^3 + e_{31}(x-768)^4 + f_{31}(x-768)^5 + g_{31}(x-768)^6 + h_{31}(x-768)^{31} + i_{31}(x-768)^{31} + j_{31}(x-768)^{31} + k_{31}(x-768)^{31} + l_{31}(x-768)^{31} + m_{31}(x-768)^{31} + n_{31}(x-768)^{31} + \tilde{n}_{31}(x-768)^{31} + o_{31}(x-768)^{31} + p_{31}(x-768)^{31} + q_{31}(x-768)^{31} + r_{31}(x-768)^{31} + s_{31}(x-768)^{31} + t_{31}(x-768)^{31} + u_{31}(x-768)^{31} + v_{31}(x-768)^{31} + w_{31}(x-768)^{31} + x_{31}(x-768)^{31} + y_{31}(x-768)^{31} + z_{31}(x-768)^{31} + A_{31}(x-768)^{31} + B_{31}(x-768)^{31} + C_{31}(x-768)^{31} + D_{31}(x-768)^{31} + E_{31}(x-768)^{31} + F_{31}(x-768)^{32} + G_{31}(x-768)^{33} + H_{31}(x-768)^{34} + I_{31}(x-768)^{35} + J_{31}(x-768)^{36} + K_{31}(x-768)^{37} + L_{31}(x-768)^{38} + M_{31}(x-768)^{39} + N_{31}(x-768)^{40} + O_{31}(x-768)^{41} + P_{31}(x-768)^{42} + Q_{31}(x-768)^{43} + R_{31}(x-768)^{44} + S_{31}(x-768)^{45} + T_{31}(x-768)^{46} + U_{31}(x-768)^{47} + V_{31}(x-768)^{768} + W_{31}(x-768)^{49} + X_{31}(x-768)^{50} + Y_{31}(x-768)^{51} + Z_{31}(x-768)^{52}$$

$$s_{32}(x) = a_{32} + b_{32}(x-792) + c_{32}(x-792)^2 + d_{32}(x-792)^3 + e_{32}(x-792)^4 + f_{32}(x-792)^5 + g_{32}(x-792)^6 + h_{32}(x-792)^{32} + i_{32}(x-792)^{32} + j_{32}(x-792)^{32} + k_{32}(x-792)^{32} + l_{32}(x-792)^{32} + m_{32}(x-792)^{32} + n_{32}(x-792)^{32} + \tilde{n}_{32}(x-792)^{32} + o_{32}(x-792)^{32} + p_{32}(x-792)^{32} + q_{32}(x-792)^{32} + r_{32}(x-792)^{32} + s_{32}(x-792)^{32} + t_{32}(x-792)^{32} + u_{32}(x-792)^{32} + v_{32}(x-792)^{32} + w_{32}(x-792)^{32} + x_{32}(x-792)^{32} + y_{32}(x-792)^{32} + z_{32}(x-792)^{32} + A_{32}(x-792)^{32} + B_{32}(x-792)^{32} + C_{32}(x-792)^{32} + D_{32}(x-792)^{32} + E_{32}(x-792)^{32} + F_{32}(x-792)^{32} + G_{32}(x-792)^{33} + H_{32}(x-792)^{34} + I_{32}(x-792)^{35} + J_{32}(x-792)^{36} + K_{32}(x-792)^{37} + L_{32}(x-792)^{38} + M_{32}(x-792)^{39} + N_{32}(x-792)^{40} + O_{32}(x-792)^{41} + P_{32}(x-792)^{42} + Q_{32}(x-792)^{43} + R_{32}(x-792)^{44} + S_{32}(x-792)^{45} + T_{32}(x-792)^{46} + U_{32}(x-792)^{47} + V_{32}(x-792)^{792} + W_{32}(x-792)^{49} + X_{32}(x-792)^{50} + Y_{32}(x-792)^{51} + Z_{32}(x-792)^{52}$$

$$s_{33}(x) = a_{33} + b_{33}(x-816) + c_{33}(x-816)^2 + d_{33}(x-816)^3 + e_{33}(x-816)^4 + f_{33}(x-816)^5 + g_{33}(x-816)^6 + h_{33}(x-816)^{33} + i_{33}(x-816)^{33} + j_{33}(x-816)^{33} + k_{33}(x-816)^{33} + l_{33}(x-816)^{33} + m_{33}(x-816)^{33} + n_{33}(x-816)^{33} + \tilde{n}_{33}(x-816)^{33} + o_{33}(x-816)^{33} + p_{33}(x-816)^{33} + q_{33}(x-816)^{33} + r_{33}(x-816)^{33} + s_{33}(x-816)^{33} + t_{33}(x-816)^{33} + u_{33}(x-816)^{33} + v_{33}(x-816)^{33} + w_{33}(x-816)^{33} + x_{33}(x-816)^{33} + y_{33}(x-816)^{33} + z_{33}(x-816)^{33} + A_{33}(x-816)^{33} + B_{33}(x-816)^{33} + C_{33}(x-816)^{33} + D_{33}(x-816)^{33} + E_{33}(x-816)^{33} + F_{33}(x-816)^{33} + G_{33}(x-816)^{33} + H_{33}(x-816)^{34} + I_{33}(x-816)^{35} + J_{33}(x-816)^{36} + K_{33}(x-816)^{37} + L_{33}(x-816)^{38} + M_{33}(x-816)^{39} + N_{33}(x-816)^{40} + O_{33}(x-816)^{41} + P_{33}(x-816)^{42} + Q_{33}(x-816)^{43} + R_{33}(x-816)^{44} + S_{33}(x-816)^{45} + T_{33}(x-816)^{46} + U_{33}(x-816)^{47} + V_{33}(x-816)^{816} + W_{33}(x-816)^{49} + X_{33}(x-816)^{50} + Y_{33}(x-816)^{51} + Z_{33}(x-816)^{52}$$

$$s_{34}(x) = a_{34} + b_{34}(x-840) + c_{34}(x-840)^2 + d_{34}(x-840)^3 + e_{34}(x-840)^4 + f_{34}(x-840)^5 + g_{34}(x-840)^6 + h_{34}(x-840)^{34} + i_{34}(x-840)^{34} + j_{34}(x-840)^{34} + k_{34}(x-840)^{34} + l_{34}(x-840)^{34} + m_{34}(x-840)^{34} + n_{34}(x-840)^{34} + \tilde{n}_{34}(x-840)^{34} + o_{34}(x-840)^{34} + p_{34}(x-840)^{34} + q_{34}(x-840)^{34} + r_{34}(x-840)^{34} + s_{34}(x-840)^{34} + t_{34}(x-840)^{34} + u_{34}(x-840)^{34} + v_{34}(x-840)^{34} + w_{34}(x-840)^{34} + x_{34}(x-840)^{34} + y_{34}(x-840)^{34} + z_{34}(x-840)^{34} + A_{34}(x-840)^{34} + B_{34}(x-840)^{34} + C_{34}(x-840)^{34} + D_{34}(x-840)^{34} + E_{34}(x-840)^{34} + F_{34}(x-840)^{34} + G_{34}(x-840)^{34} + H_{34}(x-840)^{34} + I_{34}(x-840)^{35} + J_{34}(x-840)^{36} + K_{34}(x-840)^{37} + L_{34}(x-840)^{38} + M_{34}(x-840)^{39} + N_{34}(x-840)^{40} + O_{34}(x-840)^{41} + P_{34}(x-840)^{42} + Q_{34}(x-840)^{43} + R_{34}(x-840)^{44} + S_{34}(x-840)^{45} + T_{34}(x-840)^{46} + U_{34}(x-840)^{47} + V_{34}(x-840)^{840} + W_{34}(x-840)^{49} + X_{34}(x-840)^{50} + Y_{34}(x-840)^{51} + Z_{34}(x-840)^{52}$$

$$s_{35}(x) = a_{35} + b_{35}(x-864) + c_{35}(x-864)^2 + d_{35}(x-864)^3 + e_{35}(x-864)^4 + f_{35}(x-864)^5 + g_{35}(x-864)^6 + h_{35}(x-864)^{35} + i_{35}(x-864)^{35} + j_{35}(x-864)^{35} + k_{35}(x-864)^{35} + l_{35}(x-864)^{35} + m_{35}(x-864)^{35} + n_{35}(x-864)^{35} + \tilde{n}_{35}(x-864)^{35} + o_{35}(x-864)^{35} + p_{35}(x-864)^{35} + q_{35}(x-864)^{35} + r_{35}(x-864)^{35} + s_{35}(x-864)^{35} + t_{35}(x-864)^{35} + u_{35}(x-864)^{35} + v_{35}(x-864)^{35} + w_{35}(x-864)^{35} + x_{35}(x-864)^{35} + y_{35}(x-864)^{35} + z_{35}(x-864)^{35} + A_{35}(x-864)^{35} + B_{35}(x-864)^{35} + C_{35}(x-864)^{35} + D_{35}(x-864)^{35} + E_{35}(x-864)^{35} + F_{35}(x-864)^{35} + G_{35}(x-864)^{35} + H_{35}(x-864)^{35} + I_{35}(x-864)^{35} + J_{35}(x-864)^{36} + K_{35}(x-864)^{37} + L_{35}(x-864)^{38} + M_{35}(x-864)^{39} + N_{35}(x-864)^{40} + O_{35}(x-864)^{41} + P_{35}(x-864)^{42} + Q_{35}(x-864)^{43} + R_{35}(x-864)^{44} + S_{35}(x-864)^{45} + T_{35}(x-864)^{46} + U_{35}(x-864)^{47} + V_{35}(x-864)^{864} + W_{35}(x-864)^{49} + X_{35}(x-864)^{50} + Y_{35}(x-864)^{51} + Z_{35}(x-864)^{52}$$

$$s_{36}(x) = a_{36} + b_{36}(x-888) + c_{36}(x-888)^2 + d_{36}(x-888)^3 + e_{36}(x-888)^4 + f_{36}(x-888)^5 + g_{36}(x-888)^6 + h_{36}(x-888)^{36} + i_{36}(x-888)^{36} + j_{36}(x-888)^{36} + k_{36}(x-888)^{36} + l_{36}(x-888)^{36} + m_{36}(x-888)^{36} + n_{36}(x-888)^{36} + \tilde{n}_{36}(x-888)^{36} + o_{36}(x-888)^{36} + p_{36}(x-888)^{36} + q_{36}(x-888)^{36} + r_{36}(x-888)^{36} + s_{36}(x-888)^{36} + t_{36}(x-888)^{36} + u_{36}(x-888)^{36} + v_{36}(x-888)^{36} + w_{36}(x-888)^{36} + x_{36}(x-888)^{36} + y_{36}(x-888)^{36} + z_{36}(x-888)^{36} + A_{36}(x-888)^{36} + B_{36}(x-888)^{36} + C_{36}(x-888)^{36} + D_{36}(x-888)^{36} + E_{36}(x-888)^{36} + F_{36}(x-888)^{36} + G_{36}(x-888)^{36} + H_{36}(x-888)^{36} + I_{36}(x-888)^{36} + J_{36}(x-888)^{36} + K_{36}(x-888)^{37} + L_{36}(x-888)^{38} + M_{36}(x-888)^{39} + N_{36}(x-888)^{40} + O_{36}(x-888)^{41} + P_{36}(x-888)^{42} + Q_{36}(x-888)^{43} + R_{36}(x-888)^{44} + S_{36}(x-888)^{45} + T_{36}(x-888)^{46} + U_{36}(x-888)^{47} + V_{36}(x-888)^{888} + W_{36}(x-888)^{49} + X_{36}(x-888)^{50} + Y_{36}(x-888)^{51} + Z_{36}(x-888)^{52}$$

$$s_{37}(x) = a_{37} + b_{37}(x-912) + c_{37}(x-912)^2 + d_{37}(x-912)^3 + e_{37}(x-912)^4 + f_{37}(x-912)^5 + g_{37}(x-912)^6 + h_{37}(x-912)^{37} + i_{37}(x-912)^{37} + j_{37}(x-912)^{37} + k_{37}(x-912)^{37} + l_{37}(x-912)^{37} + m_{37}(x-912)^{37} + n_{37}(x-912)^{37} + \tilde{n}_{37}(x-912)^{37} + o_{37}(x-912)^{37} + p_{37}(x-912)^{37} + q_{37}(x-912)^{37} + r_{37}(x-912)^{37} + s_{37}(x-912)^{37} + t_{37}(x-912)^{37} + u_{37}(x-912)^{37} + v_{37}(x-912)^{37} + w_{37}(x-912)^{37} + x_{37}(x-912)^{37} + y_{37}(x-912)^{37} + z_{37}(x-912)^{37} + A_{37}(x-912)^{37} + B_{37}(x-912)^{37} + C_{37}(x-912)^{37} + D_{37}(x-912)^{37} + E_{37}(x-912)^{37} + F_{37}(x-912)^{37} + G_{37}(x-912)^{37} + H_{37}(x-912)^{37} + I_{37}(x-912)^{37} + J_{37}(x-912)^{37} + K_{37}(x-912)^{37} + L_{37}(x-912)^{38} + M_{37}(x-912)^{39} + N_{37}(x-912)^{40} + O_{37}(x-912)^{41} + P_{37}(x-912)^{42} + Q_{37}(x-912)^{43} + R_{37}(x-912)^{44} + S_{37}(x-912)^{45} + T_{37}(x-912)^{46} + U_{37}(x-912)^{47} + V_{37}(x-912)^{912} + W_{37}(x-912)^{49} + X_{37}(x-912)^{50} + Y_{37}(x-912)^{51} + Z_{37}(x-912)^{52}$$

$$s_{38}(x) = a_{38} + b_{38}(x-936) + c_{38}(x-936)^2 + d_{38}(x-936)^3 + e_{38}(x-936)^4 + f_{38}(x-936)^5 + g_{38}(x-936)^6 + h_{38}(x-936)^{38} + i_{38}(x-936)^{38} + j_{38}(x-936)^{38} + k_{38}(x-936)^{38} + l_{38}(x-936)^{38} + m_{38}(x-936)^{38} + n_{38}(x-936)^{38} + \tilde{n}_{38}(x-936)^{38} + o_{38}(x-936)^{38} + p_{38}(x-936)^{38} + q_{38}(x-936)^{38} + r_{38}(x-936)^{38} + s_{38}(x-936)^{38} + t_{38}(x-936)^{38} + u_{38}(x-936)^{38} + v_{38}(x-936)^{38} + w_{38}(x-936)^{38} + x_{38}(x-936)^{38} + y_{38}(x-936)^{38} + z_{38}(x-936)^{38} + A_{38}(x-936)^{38} + B_{38}(x-936)^{38} + C_{38}(x-936)^{38} + D_{38}(x-936)^{38} + E_{38}(x-936)^{38} + F_{38}(x-936)^{38} + G_{38}(x-936)^{38} + H_{38}(x-936)^{38} + I_{38}(x-936)^{38} + J_{38}(x-936)^{38} + K_{38}(x-936)^{38} + L_{38}(x-936)^{38} + M_{38}(x-936)^{39} + N_{38}(x-936)^{40} + O_{38}(x-936)^{41} + P_{38}(x-936)^{42} + Q_{38}(x-936)^{43} + R_{38}(x-936)^{44} + S_{38}(x-936)^{45} + T_{38}(x-936)^{46} + U_{38}(x-936)^{47} + V_{38}(x-936)^{936} + W_{38}(x-936)^{49} + X_{38}(x-936)^{50} + Y_{38}(x-936)^{51} + Z_{38}(x-936)^{52}$$

$$s_{39}(x) = a_{39} + b_{39}(x-960) + c_{39}(x-960)^2 + d_{39}(x-960)^3 + e_{39}(x-960)^4 + f_{39}(x-960)^5 + g_{39}(x-960)^6 + h_{39}(x-960)^{39} + i_{39}(x-960)^{39} + j_{39}(x-960)^{39} + k_{39}(x-960)^{39} + l_{39}(x-960)^{39} + m_{39}(x-960)^{39} + n_{39}(x-960)^{39} + \tilde{n}_{39}(x-960)^{39} + o_{39}(x-960)^{39} + p_{39}(x-960)^{39} + q_{39}(x-960)^{39} + r_{39}(x-960)^{39} + s_{39}(x-960)^{39} + t_{39}(x-960)^{39} + u_{39}(x-960)^{39} + v_{39}(x-960)^{39} + w_{39}(x-960)^{39} + x_{39}(x-960)^{39} + y_{39}(x-960)^{39} + z_{39}(x-960)^{39} + A_{39}(x-960)^{39} + B_{39}(x-960)^{39} + C_{39}(x-960)^{39} + D_{39}(x-960)^{39} + E_{39}(x-960)^{39} + F_{39}(x-960)^{39} + G_{39}(x-960)^{39} + H_{39}(x-960)^{39} + I_{39}(x-960)^{39} + J_{39}(x-960)^{39} + K_{39}(x-960)^{39} + L_{39}(x-960)^{39} + M_{39}(x-960)^{39} + N_{39}(x-960)^{40} + O_{39}(x-960)^{41} + P_{39}(x-960)^{42} + Q_{39}(x-960)^{43} + R_{39}(x-960)^{44} + S_{39}(x-960)^{45} + T_{39}(x-960)^{46} + U_{39}(x-960)^{47} + V_{39}(x-960)^{960} + W_{39}(x-960)^{49} + X_{39}(x-960)^{50} + Y_{39}(x-960)^{51} + Z_{39}(x-960)^{52}$$

$$s_{40}(x) = a_{40} + b_{40}(x-984) + c_{40}(x-984)^2 + d_{40}(x-984)^3 + e_{40}(x-984)^4 + f_{40}(x-984)^5 + g_{40}(x-984)^6 + h_{40}(x-984)^{40} + i_{40}(x-984)^{40} + j_{40}(x-984)^{40} + k_{40}(x-984)^{40} + l_{40}(x-984)^{40} + m_{40}(x-984)^{40} + n_{40}(x-984)^{40} + \tilde{n}_{40}(x-984)^{40} + o_{40}(x-984)^{40} + p_{40}(x-984)^{40} + q_{40}(x-984)^{40} + r_{40}(x-984)^{40} + s_{40}(x-984)^{40} + t_{40}(x-984)^{40} + u_{40}(x-984)^{40} + v_{40}(x-984)^{40} + w_{40}(x-984)^{40} + x_{40}(x-984)^{40} + y_{40}(x-984)^{40} + z_{40}(x-984)^{40} + A_{40}(x-984)^{40} + B_{40}(x-984)^{40} + C_{40}(x-984)^{40} + D_{40}(x-984)^{40} + E_{40}(x-984)^{40} + F_{40}(x-984)^{40} + G_{40}(x-984)^{40} + H_{40}(x-984)^{40} + I_{40}(x-984)^{40} + J_{40}(x-984)^{40} + K_{40}(x-984)^{40} + L_{40}(x-984)^{40} + M_{40}(x-984)^{40} + N_{40}(x-984)^{40} + O_{40}(x-984)^{41} + P_{40}(x-984)^{42} + Q_{40}(x-984)^{43} + R_{40}(x-984)^{44} + S_{40}(x-984)^{45} + T_{40}(x-984)^{46} + U_{40}(x-984)^{47} + V_{40}(x-984)^{984} + W_{40}(x-984)^{49} + X_{40}(x-984)^{50} + Y_{40}(x-984)^{51} + Z_{40}(x-984)^{52}$$

$$s_{41}(x) = a_{41} + b_{41}(x-1008) + c_{41}(x-1008)^2 + d_{41}(x-1008)^3 + e_{41}(x-1008)^4 + f_{41}(x-1008)^5 + g_{41}(x-1008)^6 + h_{41}(x-1008)^{41} + i_{41}(x-1008)^{41} + j_{41}(x-1008)^{41} + k_{41}(x-1008)^{41} + l_{41}(x-1008)^{41} + m_{41}(x-1008)^{41} + n_{41}(x-1008)^{41} + \tilde{n}_{41}(x-1008)^{41} + o_{41}(x-1008)^{41} + p_{41}(x-1008)^{41} + q_{41}(x-1008)^{41} + r_{41}(x-1008)^{41} + s_{41}(x-1008)^{41} + t_{41}(x-1008)^{41} + u_{41}(x-1008)^{41} + v_{41}(x-1008)^{41} + w_{41}(x-1008)^{41} + x_{41}(x-1008)^{41} + y_{41}(x-1008)^{41} + z_{41}(x-1008)^{41} + A_{41}(x-1008)^{41} + B_{41}(x-1008)^{41} + C_{41}(x-1008)^{41} + D_{41}(x-1008)^{41} + E_{41}(x-1008)^{41} + F_{41}(x-1008)^{41} + G_{41}(x-1008)^{41} + H_{41}(x-1008)^{41} + I_{41}(x-1008)^{41} + J_{41}(x-1008)^{41} + K_{41}(x-1008)^{41} + L_{41}(x-1008)^{41} + M_{41}(x-1008)^{41} + N_{41}(x-1008)^{41} + O_{41}(x-1008)^{41} + P_{41}(x-1008)^{42} + Q_{41}(x-1008)^{43} + R_{41}(x-1008)^{44} + S_{41}(x-1008)^{45} + T_{41}(x-1008)^{46} + U_{41}(x-1008)^{47} + V_{41}(x-1008)^{1008} + W_{41}(x-1008)^{49} + X_{41}(x-1008)^{50} + Y_{41}(x-1008)^{51} + Z_{41}(x-1008)^{52}$$

$$s_{42}(x) = a_{42} + b_{42}(x-1032) + c_{42}(x-1032)^2 + d_{42}(x-1032)^3 + e_{42}(x-1032)^4 + f_{42}(x-1032)^5 + g_{42}(x-1032)^6 + h_{42}(x-1032)^{42} + i_{42}(x-1032)^{42} + j_{42}(x-1032)^{42} + k_{42}(x-1032)^{42} + l_{42}(x-1032)^{42} + m_{42}(x-1032)^{42} + n_{42}(x-1032)^{42} + \tilde{n}_{42}(x-1032)^{42} + o_{42}(x-1032)^{42} + p_{42}(x-1032)^{42} + q_{42}(x-1032)^{42} + r_{42}(x-1032)^{42} + s_{42}(x-1032)^{42} + t_{42}(x-1032)^{42} + u_{42}(x-1032)^{42} + v_{42}(x-1032)^{42} + w_{42}(x-1032)^{42} + x_{42}(x-1032)^{42} + y_{42}(x-1032)^{42} + z_{42}(x-1032)^{42} + A_{42}(x-1032)^{42} + B_{42}(x-1032)^{42} + C_{42}(x-1032)^{42} + D_{42}(x-1032)^{42} + E_{42}(x-1032)^{42} + F_{42}(x-1032)^{42} + G_{42}(x-1032)^{42} + H_{42}(x-1032)^{42} + I_{42}(x-1032)^{42} + J_{42}(x-1032)^{42} + K_{42}(x-1032)^{42} + L_{42}(x-1032)^{42} + M_{42}(x-1032)^{42} + N_{42}(x-1032)^{42} + O_{42}(x-1032)^{42} + P_{42}(x-1032)^{42} + Q_{42}(x-1032)^{43} + R_{42}(x-1032)^{44} + S_{42}(x-1032)^{45} + T_{42}(x-1032)^{46} + U_{42}(x-1032)^{47} + V_{42}(x-1032)^{1032} + W_{42}(x-1032)^{49} + X_{42}(x-1032)^{50} + Y_{42}(x-1032)^{51} + Z_{42}(x-1032)^{52}$$

$$s_{43}(x) = a_{43} + b_{43}(x-1056) + c_{43}(x-1056)^2 + d_{43}(x-1056)^3 + e_{43}(x-1056)^4 + f_{43}(x-1056)^5 + g_{43}(x-1056)^6 + h_{43}(x-1056)^{43} + i_{43}(x-1056)^{43} + j_{43}(x-1056)^{43} + k_{43}(x-1056)^{43} + l_{43}(x-1056)^{43} + m_{43}(x-1056)^{43} + n_{43}(x-1056)^{43} + \tilde{n}_{43}(x-1056)^{43} + o_{43}(x-1056)^{43} + p_{43}(x-1056)^{43} + q_{43}(x-1056)^{43} + r_{43}(x-1056)^{43} + s_{43}(x-1056)^{43} + t_{43}(x-1056)^{43} + u_{43}(x-1056)^{43} + v_{43}(x-1056)^{43} + w_{43}(x-1056)^{43} + x_{43}(x-1056)^{43} + y_{43}(x-1056)^{43} + z_{43}(x-1056)^{43} + A_{43}(x-1056)^{43} + B_{43}(x-1056)^{43} + C_{43}(x-1056)^{43} + D_{43}(x-1056)^{43} + E_{43}(x-1056)^{43} + F_{43}(x-1056)^{43} + G_{43}(x-1056)^{43} + H_{43}(x-1056)^{43} + I_{43}(x-1056)^{43} + J_{43}(x-1056)^{43} + K_{43}(x-1056)^{43} + L_{43}(x-1056)^{43} + M_{43}(x-1056)^{43} + N_{43}(x-1056)^{43} + O_{43}(x-1056)^{43} + P_{43}(x-1056)^{43} + Q_{43}(x-1056)^{43} + R_{43}(x-1056)^{44} + S_{43}(x-1056)^{45} + T_{43}(x-1056)^{46} + U_{43}(x-1056)^{47} + V_{43}(x-1056)^{1056} + W_{43}(x-1056)^{49} + X_{43}(x-1056)^{50} + Y_{43}(x-1056)^{51} + Z_{43}(x-1056)^{52}$$

$$s_{44}(x) = a_{44} + b_{44}(x-1080) + c_{44}(x-1080)^2 + d_{44}(x-1080)^3 + e_{44}(x-1080)^4 + f_{44}(x-1080)^5 + g_{44}(x-1080)^6 + h_{44}(x-1080)^{44} + i_{44}(x-1080)^{44} + j_{44}(x-1080)^{44} + k_{44}(x-1080)^{44} + l_{44}(x-1080)^{44} + m_{44}(x-1080)^{44} + n_{44}(x-1080)^{44} + \tilde{n}_{44}(x-1080)^{44} + o_{44}(x-1080)^{44} + p_{44}(x-1080)^{44} + q_{44}(x-1080)^{44} + r_{44}(x-1080)^{44} + s_{44}(x-1080)^{44} + t_{44}(x-1080)^{44} + u_{44}(x-1080)^{44} + v_{44}(x-1080)^{44} + w_{44}(x-1080)^{44} + x_{44}(x-1080)^{44} + y_{44}(x-1080)^{44} + z_{44}(x-1080)^{44} + A_{44}(x-1080)^{44} + B_{44}(x-1080)^{44} + C_{44}(x-1080)^{44} + D_{44}(x-1080)^{44} + E_{44}(x-1080)^{44} + F_{44}(x-1080)^{44} + G_{44}(x-1080)^{44} + H_{44}(x-1080)^{44} + I_{44}(x-1080)^{44} + J_{44}(x-1080)^{44} + K_{44}(x-1080)^{44} + L_{44}(x-1080)^{44} + M_{44}(x-1080)^{44} + N_{44}(x-1080)^{44} + O_{44}(x-1080)^{44} + P_{44}(x-1080)^{44} + Q_{44}(x-1080)^{44} + R_{44}(x-1080)^{44} + S_{44}(x-1080)^{45} + T_{44}(x-1080)^{46} + U_{44}(x-1080)^{47} + V_{44}(x-1080)^{1080} + W_{44}(x-1080)^{49} + X_{44}(x-1080)^{50} + Y_{44}(x-1080)^{51} + Z_{44}(x-1080)^{52}$$

$$s_{45}(x) = a_{45} + b_{45}(x-1104) + c_{45}(x-1104)^2 + d_{45}(x-1104)^3 + e_{45}(x-1104)^4 + f_{45}(x-1104)^5 + g_{45}(x-1104)^6 + h_{45}(x-1104)^{45} + i_{45}(x-1104)^{45} + j_{45}(x-1104)^{45} + k_{45}(x-1104)^{45} + l_{45}(x-1104)^{45} + m_{45}(x-1104)^{45} + n_{45}(x-1104)^{45} + \tilde{n}_{45}(x-1104)^{45} + o_{45}(x-1104)^{45} + p_{45}(x-1104)^{45} + q_{45}(x-1104)^{45} + r_{45}(x-1104)^{45} + s_{45}(x-1104)^{45} + t_{45}(x-1104)^{45} + u_{45}(x-1104)^{45} + v_{45}(x-1104)^{45} + w_{45}(x-1104)^{45} + x_{45}(x-1104)^{45} + y_{45}(x-1104)^{45} + z_{45}(x-1104)^{45} + A_{45}(x-1104)^{45} + B_{45}(x-1104)^{45} + C_{45}(x-1104)^{45} + D_{45}(x-1104)^{45} + E_{45}(x-1104)^{45} + F_{45}(x-1104)^{45} + G_{45}(x-1104)^{45} + H_{45}(x-1104)^{45} + I_{45}(x-1104)^{45} + J_{45}(x-1104)^{45} + K_{45}(x-1104)^{45} + L_{45}(x-1104)^{45} + M_{45}(x-1104)^{45} + N_{45}(x-1104)^{45} + O_{45}(x-1104)^{45} + P_{45}(x-1104)^{45} + Q_{45}(x-1104)^{45} + R_{45}(x-1104)^{45} + S_{45}(x-1104)^{45} + T_{45}(x-1104)^{46} + U_{45}(x-1104)^{47} + V_{45}(x-1104)^{1104} + W_{45}(x-1104)^{49} + X_{45}(x-1104)^{50} + Y_{45}(x-1104)^{51} + Z_{45}(x-1104)^{52}$$

$$s_{46}(x) = a_{46} + b_{46}(x-1128) + c_{46}(x-1128)^2 + d_{46}(x-1128)^3 + e_{46}(x-1128)^4 + f_{46}(x-1128)^5 + g_{46}(x-1128)^6 + h_{46}(x-1128)^{46} + i_{46}(x-1128)^{46} + j_{46}(x-1128)^{46} + k_{46}(x-1128)^{46} + l_{46}(x-1128)^{46} + m_{46}(x-1128)^{46} + n_{46}(x-1128)^{46} + \tilde{n}_{46}(x-1128)^{46} + o_{46}(x-1128)^{46} + p_{46}(x-1128)^{46} + q_{46}(x-1128)^{46} + r_{46}(x-1128)^{46} + s_{46}(x-1128)^{46} + t_{46}(x-1128)^{46} + u_{46}(x-1128)^{46} + v_{46}(x-1128)^{46} + w_{46}(x-1128)^{46} + x_{46}(x-1128)^{46} + y_{46}(x-1128)^{46} + z_{46}(x-1128)^{46} + A_{46}(x-1128)^{46} + B_{46}(x-1128)^{46} + C_{46}(x-1128)^{46} + D_{46}(x-1128)^{46} + E_{46}(x-1128)^{46} + F_{46}(x-1128)^{46} + G_{46}(x-1128)^{46} + H_{46}(x-1128)^{46} + I_{46}(x-1128)^{46} + J_{46}(x-1128)^{46} + K_{46}(x-1128)^{46} + L_{46}(x-1128)^{46} + M_{46}(x-1128)^{46} + N_{46}(x-1128)^{46} + O_{46}(x-1128)^{46} + P_{46}(x-1128)^{46} + Q_{46}(x-1128)^{46} + R_{46}(x-1128)^{46} + S_{46}(x-1128)^{46} + T_{46}(x-1128)^{46} + U_{46}(x-1128)^{47} + V_{46}(x-1128)^{1128} + W_{46}(x-1128)^{49} + X_{46}(x-1128)^{50} + Y_{46}(x-1128)^{51} + Z_{46}(x-1128)^{52}$$

$$s_{47}(x) = a_{47} + b_{47}(x-1152) + c_{47}(x-1152)^2 + d_{47}(x-1152)^3 + e_{47}(x-1152)^4 + f_{47}(x-1152)^5 + g_{47}(x-1152)^6 + h_{47}(x-1152)^{47} + i_{47}(x-1152)^{47} + j_{47}(x-1152)^{47} + k_{47}(x-1152)^{47} + l_{47}(x-1152)^{47} + m_{47}(x-1152)^{47} + n_{47}(x-1152)^{47} + \tilde{n}_{47}(x-1152)^{47} + o_{47}(x-1152)^{47} + p_{47}(x-1152)^{47} + q_{47}(x-1152)^{47} + r_{47}(x-1152)^{47} + s_{47}(x-1152)^{47} + t_{47}(x-1152)^{47} + u_{47}(x-1152)^{47} + v_{47}(x-1152)^{47} + w_{47}(x-1152)^{47} + x_{47}(x-1152)^{47} + y_{47}(x-1152)^{47} + z_{47}(x-1152)^{47} + A_{47}(x-1152)^{47} + B_{47}(x-1152)^{47} + C_{47}(x-1152)^{47} + D_{47}(x-1152)^{47} + E_{47}(x-1152)^{47} + F_{47}(x-1152)^{47} + G_{47}(x-1152)^{47} + H_{47}(x-1152)^{47} + I_{47}(x-1152)^{47} + J_{47}(x-1152)^{47} + K_{47}(x-1152)^{47} + L_{47}(x-1152)^{47} + M_{47}(x-1152)^{47} + N_{47}(x-1152)^{47} + O_{47}(x-1152)^{47} + P_{47}(x-1152)^{47} + Q_{47}(x-1152)^{47} + R_{47}(x-1152)^{47} + S_{47}(x-1152)^{47} + T_{47}(x-1152)^{47} + U_{47}(x-1152)^{47} + V_{47}(x-1152)^{1152} + W_{47}(x-1152)^{49} + X_{47}(x-1152)^{50} + Y_{47}(x-1152)^{51} + Z_{47}(x-1152)^{52}$$

$$s_{48}(x) = a_{48} + b_{48}(x-1176) + c_{48}(x-1176)^2 + d_{48}(x-1176)^3 + e_{48}(x-1176)^4 + f_{48}(x-1176)^5 + g_{48}(x-1176)^6 + h_{48}(x-1176)^{48} + i_{48}(x-1176)^{48} + j_{48}(x-1176)^{48} + k_{48}(x-1176)^{48} + l_{48}(x-1176)^{48} + m_{48}(x-1176)^{48} + n_{48}(x-1176)^{48} + \tilde{n}_{48}(x-1176)^{48} + o_{48}(x-1176)^{48} + p_{48}(x-1176)^{48} + q_{48}(x-1176)^{48} + r_{48}(x-1176)^{48} + s_{48}(x-1176)^{48} + t_{48}(x-1176)^{48} + u_{48}(x-1176)^{48} + v_{48}(x-1176)^{48} + w_{48}(x-1176)^{48} + x_{48}(x-1176)^{48} + y_{48}(x-1176)^{48} + z_{48}(x-1176)^{48} + A_{48}(x-1176)^{48} + B_{48}(x-1176)^{48} + C_{48}(x-1176)^{48} + D_{48}(x-1176)^{48} + E_{48}(x-1176)^{48} + F_{48}(x-1176)^{48} +$$

$G_{48}(x-1176)^{48}+H_{48}(x-1176)^{48}+I_{48}(x-1176)^{48}+J_{48}(x-1176)^{48}+$
$K_{48}(x-1176)^{48}+L_{48}(x-1176)^{48}+M_{48}(x-1176)^{48}+N_{48}(x-1176)^{48}+$
$O_{48}(x-1176)^{48}+P_{48}(x-1176)^{48}+Q_{48}(x-1176)^{48}+R_{48}(x-1176)^{48}+$
$S_{48}(x-1176)^{48}+T_{48}(x-1176)^{48}+U_{48}(x-1176)^{48}+V_{48}(x-1176)^{1176}+$
$W_{48}(x-1176)^{49}+X_{48}(x-1176)^{50}+Y_{48}(x-1176)^{51}+Z_{48}(x-1176)^{52}$

$s_{49}(x)=a_{49}+b_{49}(x-1200)+c_{49}(x-1200)^2+d_{49}(x-1200)^3+e_{49}(x-1200)^4+$
$f_{49}(x-1200)^5+g_{49}(x-1200)^6+h_{49}(x-1200)^{49}+i_{49}(x-1200)^{49}+$
$j_{49}(x-1200)^{49}+k_{49}(x-1200)^{49}+l_{49}(x-1200)^{49}+m_{49}(x-1200)^{49}+$
$n_{49}(x-1200)^{49}+\tilde{n}_{49}(x-1200)^{49}+o_{49}(x-1200)^{49}+p_{49}(x-1200)^{49}+$
$q_{49}(x-1200)^{49}+r_{49}(x-1200)^{49}+s_{49}(x-1200)^{49}+t_{49}(x-1200)^{49}+$
$u_{49}(x-1200)^{49}+v_{49}(x-1200)^{49}+w_{49}(x-1200)^{49}+x_{49}(x-1200)^{49}+$
$y_{49}(x-1200)^{49}+z_{49}(x-1200)^{49}+A_{49}(x-1200)^{49}+B_{49}(x-1200)^{49}+$
$C_{49}(x-1200)^{49}+D_{49}(x-1200)^{49}+E_{49}(x-1200)^{49}+F_{49}(x-1200)^{49}+$
$G_{49}(x-1200)^{49}+H_{49}(x-1200)^{49}+I_{49}(x-1200)^{49}+J_{49}(x-1200)^{49}+$
$K_{49}(x-1200)^{49}+L_{49}(x-1200)^{49}+M_{49}(x-1200)^{49}+N_{49}(x-1200)^{49}+$
$O_{49}(x-1200)^{49}+P_{49}(x-1200)^{49}+Q_{49}(x-1200)^{49}+R_{49}(x-1200)^{49}+$
$S_{49}(x-1200)^{49}+T_{49}(x-1200)^{49}+U_{49}(x-1200)^{49}+V_{49}(x-1200)^{1200}+$
$W_{49}(x-1200)^{49}+X_{49}(x-1200)^{50}+Y_{49}(x-1200)^{51}+Z_{49}(x-1200)^{52}$

$s_{50}(x)=a_{50}+b_{50}(x-1224)+c_{50}(x-1224)^2+d_{50}(x-1224)^3+e_{50}(x-1224)^4+$
$f_{50}(x-1224)^5+g_{50}(x-1224)^6+h_{50}(x-1224)^{50}+i_{50}(x-1224)^{50}+$
$j_{50}(x-1224)^{50}+k_{50}(x-1224)^{50}+l_{50}(x-1224)^{50}+m_{50}(x-1224)^{50}+$
$n_{50}(x-1224)^{50}+\tilde{n}_{50}(x-1224)^{50}+o_{50}(x-1224)^{50}+p_{50}(x-1224)^{50}+$
$q_{50}(x-1224)^{50}+r_{50}(x-1224)^{50}+s_{50}(x-1224)^{50}+t_{50}(x-1224)^{50}+$
$u_{50}(x-1224)^{50}+v_{50}(x-1224)^{50}+w_{50}(x-1224)^{50}+x_{50}(x-1224)^{50}+$
$y_{50}(x-1224)^{50}+z_{50}(x-1224)^{50}+A_{50}(x-1224)^{50}+B_{50}(x-1224)^{50}+$
$C_{50}(x-1224)^{50}+D_{50}(x-1224)^{50}+E_{50}(x-1224)^{50}+F_{50}(x-1224)^{50}+$
$G_{50}(x-1224)^{50}+H_{50}(x-1224)^{50}+I_{50}(x-1224)^{50}+J_{50}(x-1224)^{50}+$
$K_{50}(x-1224)^{50}+L_{50}(x-1224)^{50}+M_{50}(x-1224)^{50}+N_{50}(x-1224)^{50}+$
$O_{50}(x-1224)^{50}+P_{50}(x-1224)^{50}+Q_{50}(x-1224)^{50}+R_{50}(x-1224)^{50}+$
$S_{50}(x-1224)^{50}+T_{50}(x-1224)^{50}+U_{50}(x-1224)^{50}+V_{50}(x-1224)^{1224}+$
$W_{50}(x-1224)^{50}+X_{50}(x-1224)^{50}+Y_{50}(x-1224)^{51}+Z_{50}(x-1224)^{52}$

$s_{51}(x)=a_{51}+b_{51}(x-1248)+c_{51}(x-1248)^2+d_{51}(x-1248)^3+e_{51}(x-1248)^4+$
$f_{51}(x-1248)^5+g_{51}(x-1248)^6+h_{51}(x-1248)^{51}+i_{51}(x-1248)^{51}+$
$j_{51}(x-1248)^{51}+k_{51}(x-1248)^{51}+l_{51}(x-1248)^{51}+m_{51}(x-1248)^{51}+$
$n_{51}(x-1248)^{51}+\tilde{n}_{51}(x-1248)^{51}+o_{51}(x-1248)^{51}+p_{51}(x-1248)^{51}+$
$q_{51}(x-1248)^{51}+r_{51}(x-1248)^{51}+s_{51}(x-1248)^{51}+t_{51}(x-1248)^{51}+$
$u_{51}(x-1248)^{51}+v_{51}(x-1248)^{51}+w_{51}(x-1248)^{51}+x_{51}(x-1248)^{51}+$
$y_{51}(x-1248)^{51}+z_{51}(x-1248)^{51}+A_{51}(x-1248)^{51}+B_{51}(x-1248)^{51}+$
$C_{51}(x-1248)^{51}+D_{51}(x-1248)^{51}+E_{51}(x-1248)^{51}+F_{51}(x-1248)^{51}+$
$G_{51}(x-1248)^{51}+H_{51}(x-1248)^{51}+I_{51}(x-1248)^{51}+J_{51}(x-1248)^{51}+$
$K_{51}(x-1248)^{51}+L_{51}(x-1248)^{51}+M_{51}(x-1248)^{51}+N_{51}(x-1248)^{51}+$
$O_{51}(x-1248)^{51}+P_{51}(x-1248)^{51}+Q_{51}(x-1248)^{51}+R_{51}(x-1248)^{51}+$
$S_{51}(x-1248)^{51}+T_{51}(x-1248)^{51}+U_{51}(x-1248)^{51}+V_{51}(x-1248)^{1248}+$
$W_{51}(x-1248)^{51}+X_{51}(x-1248)^{51}+Y_{51}(x-1248)^{51}+Z_{51}(x-1248)^{52}$

Polinomio (días):

x = [24,48]

-8.24582408964847e-6*x**3 + 0.00059369933445469*x**2 - 0.00949918935127504*x + 1.0

x = [48,72]

4.12291204482423e-5*x**3 - 0.00653069267900159*x**2 + 0.332471627294626*x - 4.47153306633442

x = [72,96]

-8.4332694740358e-5*x**3 + 0.0205906594017361*x**2 - 1.62026572251849*x + 42.3941633291803

x = [96,120]

0.00015142573258726 4*x**3 - 0.0473077676686189*x**2 + 4.89798327623559*x - 166.18980463095

x = [120,144]

-0.000159680420793881*x**3 + 0.0646904475485932*x**2 - 8.54180254982986*x + 371.401628411668

x = [144,168]

0.000125606135773447*x**3 - 0.0585533448884926*x**2 + 9.20530356111049*x - 480.459464913469

x = [168,192]

-0.000125730233411018*x**3 + 0.0681201851804776*x**2 - 12.0758494904765*x + 711.285105975403

x = [192,216]

8.79629460187721e-5*x**3 - 0.0549670861710813*x**2 + 11.5569066090228*x - 801.211284392554

x = [216,240]

-8.14456247381447e-5*x**3 + 0.0548096676794008*x**2 - 12.1548722226813*x + 906.036791490144

x = [240,264]

9.31436270078808e-5*x**3 - 0.0708945935777376*x**2 + 18.0141504790319*x - 1507.48502464691

x = [264,288]

-7.41149944044895e-5*x**3 + 0.0615742345808597*x**2 - 16.9576201548378*x + 1570.03079113362

x = [288,312]

0.000130978387647114*x**3 - 0.115626447511726*x**2 + 34.0761762878269*x - 3329.21366736219

x = [312,336]

-0.000232784667295079*x**3 + 0.224855771914167*x**2 - 72.1542761730517*x + 7718.75338856918

x = [336,360]

0.000510808429681349*x**3 - 0.524686069838073*x**2 + 179.691782655701*x - 20488.0052002511

x = [360,384]

-0.000725379606985874*x**3 + 0.810397009762529*x**2 - 300.938126000516*x + 37187.5838384949

x = [384,408]

0.000365247035299185*x**3 - 0.446004882149859*x**2 + 181.520200493841*x - 24567.0819527828

x = [408,432]

-1.22289045812348e-5*x**3 + 0.0160256682637742*x**2 - 6.98826407492119*x + 1070.06922856889

x = [432,456]

-2.69795651223935e-5*x**3 + 0.0351425243251159*x**2 - 15.2467458934208*x + 2259.29061043283

x = [456,480]

0.000120147165070809*x**3 - 0.166126842579185*x**2 + 76.5320854149404*x - 11691.0917484381

x = [480,504]

-0.000308933169234916*x**3 + 0.451748838821059*x**2 - 220.048241657177*x + 35761.7605831007

x = [504,528]

0.000826233660017004*x**3 - 1.26462340700784*x**2 + 645.00337024059*x - 109566.910215724

x = [528,552]

-0.0011152144337960 6*x**3 + 1.81063037359205*x**2 - 978.730625916155*x + 176210.273107863

x = [552,576]

0.0012474712973894 7*x**3 - 2.10197719725118*x**2 + 1181.02875318931*x - 221185.452647543

x = [576,600]

-0.0014151800150210 6*x**3 + 2.49908427059422*x**2 - 1469.18265228964*x + 287655.137204416

x = [600,624]

0.000579336725657755*x**3 - 1.09104586262766*x**2 + 684.895427643487*x - 143160.47878221

x = [624,648]

0.000327578482760415*x**3 - 0.619754431923841*x**2 + 390.809574884304*x - 81990.6214082994

x = [648,672]

-0.000442891397440158*x**3 + 0.878039015186073*x**2 - 579.760578842921*x + 127652.531796781

x = [672,696]

0.000503593588481696*x**3 - 1.03007471643238*x**2 + 702.491848804683*x - 159572.011996282

x = [696,720]

-0.000486413512042183*x**3 + 1.03706010946148*x**2 - 736.233990017444*x + 174212.382610451

x = [720,744]

0.000139977126353703*x**3 - 0.315943669473638*x**2 + 237.928730815838*x - 59586.6703895365

x = [744,768]

0.000722222599219963*x**3 - 1.61551556491113*x**2 + 1204.81022102133*x - 299373.279960499

x = [768,792]

-0.0014374323380483 7*x**3 + 3.36032941055511*x**2 - 2616.63872013674*x + 678917.648975967

x = [792,816]

0.000976580827047 59*x**3 - 2.37536586971289*x**2 + 1926.03194183552*x - 520347.405784709

x = [816,840]

-0.000371090044216066*x**3 + 0.923732423140537*x**2 - 766.032265132881*x + 211894.058510696

x = [840,864]

0.000652455275742598*x**3 - 1.6556017831553*x**2 + 1400.60846815562*x - 394765.346810084

x = [864,888]

-0.002094055132828 4*x**3 + 5.46335319586074*x**2 - 4750.16863371423*x + 1376658.45852843

x = [888,912]

0.007362075440756 2*x**3 - 19.7277786521686*x**2 + 17619.5564473358*x - 5244780.16546239

x = [912,936]

-0.0152014688524186*x**3 + 42.0060785339576*x**2 - 38681.7213064113*x + 11870808.2716767

x = [936,960]

0.0177811842281775*x**3 - 50.6092113163561*x**2 + 48006.1899934824*x - 15175820.0538901

x = [960,984]

-0.0126651662084394*x**3 + 37.0762779411004*x**2 - 36171.8796936759*x + 11761162.2460006

x = [984,1008]

0.00517404079076533*x**3 - 15.5850611205519*x**2 + 15646.87794299*x - 5235390.25882585

x = [1008,1032]

0.000649558600933647*x**3 - 1.90302697850092*x**2 + 1855.38752780258*x - 601449.47932288

x = [1032,1056]

-0.00343199741672214*x**3 + 10.7334704521614*x**2 - 11185.4778206409*x + 3884608.20054168

x = [1056,1080]

0.00316813014002897*x**3 - 10.1757336476261*x**2 + 10894.6417087347*x - 3887593.87379853

x = [1080,1104]

-0.00186205092117152*x**3 + 6.12205299066346*x**2 - 6706.96786061806*x + 2448985.57116846

x = [1104,1128]

-0.000277218122009559*x**3 + 0.87308675983905*x**2 - 912.109141787911*x + 316477.562638966

x = [1128,1152]

0.0026815715573579*x**3 - 9.13945751514045*x**2 + 10382.040800389*x - 3930122.81561954

x = [1152,1176]

-0.00364929958890354*x**3 + 12.7400331663391*x**2 - 14823.1324646755*x + 5748663.71816521

x = [1176,1200]

0.00280104346492292*x**3 - 10.0167771275607*x**2 + 11938.8764409506*x - 4742043.77284023

x = [1200,1224]

-0.000827443715232602*x**3 + 3.04577672099923*x**2 - 3736.18817732123*x + 1527982.07446852

x = [1224,1248]

-0.000865689900288811*x**3 + 3.18621671252563*x**2 - 3908.08672694954*x + 1598116.68271687

x = [1248,1272]

0.00212006442749896*x**3 - 7.99244749071177*x**2 + 10042.8861986907*x - 4205488.05434949

x = [1272,1296]

-0.00233389651341072*x**3 + 9.00386745979957*x**2 - 11576.4264183597*x + 4961100.49527989

x = [1296,1320]

0.000632766996514305*x**3 - 2.53052026678894*x**2 + 3372.14007529902*x - 1496680.22998067

x = [1320,1344]

0.00291336093476091*x**3 - 11.5616722622455*x**2 + 15293.2607093017*x - 6741973.30894184

x = [1344,1368]

-0.00403968295778017*x**3 + 16.4730007124802*x**2 - 22385.3397687296*x + 10138039.7052162

x = [1368,1392]

0.000803241266730153*x**3 - 3.40236030491023*x**2 + 4804.15410306044*x - 2260369.50032009

x = [1392,1416]

0.0008267178908595956*x**3 - 3.50039868727463*x**2 + 4940.62353131169*x - 2323691.31502867

x = [1416,1440]

1.31510587204961e-5*x**3 - 0.0443667843478875*x**2 + 46.8823567674226*x - 13845.4806437709

x = [1440,1464]

-0.00037295638500080 4*x**3 + 1.62361737252813*x**2 - 2355.01482913404*x + 1139065.16858893

x = [1464,1488]

0.00032126707387531 1*x**3 - 1.42541205885577*x**2 + 2108.76425841199*x - 1039259.02613353

x = [1488,1512]

-0.00033340820679673 8*x**3 + 1.49705839406426*x**2 - 2239.87177553301*x + 1117664.44670319

x = [1512,1536]

0.00036132408664497 3*x**3 - 1.65424728898734*x**2 + 2524.90241724101*x - 1283781.74645492

x = [1536,1560]

-0.00031617054719056 2*x**3 + 1.4676479837268*x**2 - 2270.32872164792*x + 1171376.59665622

x = [1560,1584]

0.00032465439841357 2*x**3 - 1.53141276170054*x**2 + 2408.20604121874*x - 1261461.48003445

x = [1584,1608]

-0.00018672945387113 4*x**3 + 0.898683304356376*x**2 - 1441.06612741542*x + 770954.225004389

x = [1608,1632]

-0.00022877824959570 5*x**3 + 1.10152669493171*x**2 - 1767.23829946056*x + 945782.509220581

x = [1632,1656]

0.00059547671151321 2*x**3 - 2.93402559465755*x**2 + 4818.78303714911*x - 2637013.09789508

x = [1656,1680]

-0.00070636933719788 5*x**3 + 3.53354557533918*x**2 - 5891.51482036548*x + 3275071.31945297

x = [1680,1704]

0.00100025526690796*x**3 - 5.06784242935427*x**2 + 8558.81702751953*x - 4817114.51536263

x = [1704,1728]

-0.00148620265635988*x**3 + 7.6429304743909*x**2 - 13100.3400004622*x + 7485286.67653102

x = [1728,1752]

0.00248506461779081*x**3 - 12.9441190748062*x**2 + 22474.0816205504*x - 13005580.1771723

x = [1752,1776]

-0.00245000488887742*x**3 + 12.994606252242*x**2 - 22970.5651524381*x + 13534093.538253

x = [1776,1800]

0.00029817253031148*x**3 - 1.6476830371965*x**2 + 3034.14062560467*x - 1860692.2823483

x = [1800,1824]

0.00053393513800187 2*x**3 - 2.92080111872462*x**2 + 5325.75317235528*x - 3235659.81039867

x = [1824,1848]

0.00096597117694029*x**3 - 5.28490232379564*x**2 + 9637.87377040483*x - 5857429.13401279

x = [1848,1872]

-0.00164897725317044*x**3 + 9.21237177273826*x**2 - 17153.0887599898*x + 10645803.7847103

x = [1872,1896]

0.00034926539445181*x**3 - 2.00976536659108*x**2 + 3854.75196483471*x - 2463088.82758019

x = [1896,1920]

0.00061360091020453*x**3 - 3.51329926747026*x**2 + 6705.45224090163*x - 4264731.40205449

x = [1920,1944]

-0.00063531291374414*x**3 + 3.67018221362446*x**2 - 7086.83220280023*x + 4562330.6419147

x = [1944,1968]

0.00083545481084868*x**3 - 4.89694473454062*x**2 + 9567.66258443269*x - 6229781.98021223

x = [1968,1992]

-0.00061048702609438*x**3 + 3.63989587077121*x**2 - 7232.83972682099*x + 4791347.53597018

x = [1992,2016]

0.00073843737973286*x**3 - 4.42127851929717*x**2 + 8825.01965819521*x - 5871071.09568057

x = [2016,2040]

-0.00089504666539503*x**3 + 5.46685314319618*x**2 - 11109.4537733914*x + 7524895.05034561

x = [2040,2064]

-0.00033528944218564*x**3 + 2.03221597015056*x**2 - 4102.79394037832*x + 2760366.36389674

x = [2064,2088]

0.0017312966945413*4*x**3 - 10.7640853884629*x**2 + 22308.7720637999*x - 15410791.0469779

x = [2088,2112]

-0.0024666334470908*3*x**3 + 15.531749018721*x**2 - 32596.9301784001*x + 22803577.7135933

x = [2112,2136]

0.0016971583901182*7*x**3 - 10.8500360618359*x**2 + 23121.399911736*x - 16422126.6698625

x = [2136,2160]

0.0002352915532844*01*x**3 - 1.48239337140444*x**2 + 3112.11512497445*x - 2175515.90168827

x = [2160,2184]

0.0001105179893367*14*x**3 - 0.67386067702342*x**2 + 1365.68450511146*x - 918085.855386915

x = [2184,2208]

-0.0023411366587794*x**3 + 15.3893805774334*x**2 - 33716.4343946222*x + 24621696.7036192

x = [2208,2232]

0.0024542601272623*8*x**3 - 16.3753277333074*x**2 + 36420.0415554935*x - 26998749.5956659

x = [2232,2256]

-0.0013271769984182*7*x**3 + 8.94517526025023*x**2 - 20095.3211261272*x + 15048680.2394598

x = [2256,2280]

0.0004672950886329*19*x**3 - 3.19981182491221*x**2 + 7303.76973799928*x - 5555436.09036328

x = [2280,2304]

0.000832417940182891*x**3 - 5.69725212951402*x**2 + 12997.9336324914*x - 9883000.6501773

x = [2304,2328]

-0.00169916592343856*x**3 + 11.8010555358374*x**2 - 27318.1672284783*x + 21079764.8110475

x = [2328,2352]

0.0021303337165343*x**3 - 14.944169949733*x**2 + 34944.7177019297*x - 27236233.8949492

x = [2352,2376]

-0.0021925393130690 3*x**3 + 15.5580221471481*x**2 - 36796.4381099346*x + 29008832.2615525

x = [2376,2400]

0.00150382816537143*x**3 - 10.7896852391755*x**2 + 25805.7146399702*x - 20572072.7163721

x = [2400,2424]

-0.0012909446447129 9*x**3 + 9.33267899343231*x**2 - 22487.9595182886*x + 18062866.6102349

x = [2424,2448]

0.000911107820887935*x**3 - 6.68064653641761*x**2 + 16328.3415660676*x - 13300704.6659249

x = [2448,2472]

0.000106004101901991*x**3 - 0.767964824184832*x**2 + 1854.09673452178*x - 1489720.88338354

x = [2472,2496]

-0.0003223927470144 16*x**3 + 2.40902620737924*x**2 - 5999.42509550461*x + 4981581.1045582

x = [2496,2520]

0.0008942150343038 2*x**3 - 6.70093285913171*x**2 + 16739.0327345067*x - 13936815.8100112

x = [2520,2544]

-0.0018077081309416 1*x**3 + 13.7256062701237*x**2 - 34735.845871217*x + 29302082.2187967

x = [2544,2568]

0.0011282841561292 8*x**3 - 8.68188686480126*x**2 + 22268.8166640322*x - 19037871.6110946

x = [2568,2592]

-2.8923863945866 5e-5*x**3 + 0.233243721857635*x**2 - 625.238682507858*x + 559439.76554367

x = [2592,2616]

-0.0007955748114569 21*x**3 + 6.1947214897036*x**2 - 16077.3890567646*x + 13910097.6889015

x = [2616,2640]

0.002343167554218*x**3 - 18.4381285961131*x**2 + 48362.146767732*x - 42281177.5500596

x = [2640,2664]

-0.0030070722572669 1*x**3 + 23.9357707108473*x**2 - 63504.9474026436*x + 56161865.319871

x = [2664,2688]

0.001583269622997 8*x**3 - 12.7502415962282*x**2 + 34226.5893834057*x - 30623739.3461408

x = [2688,2712]

7.3878024534980 6e-5*x**3 - 0.578507746224085*x**2 + 1508.9687945945*x - 1308751.29856596

x = [2712,2736]

-0.0007213743137303 12*x**3 + 5.89166527790234*x**2 - 16038.1404468364*x + 14553835.4556875

x = [2736,2760]

0.00114784608223812*x**3 - 9.45089573220657*x**2 + 25939.1064768216*x - 23729413.7386885

x = [2760,2784]

-0.00133818131151847*x**3 + 11.133411088098*x**2 - 30873.580347219*x + 28538258.1394289

x = [2784,2808]

0.000370967126798724*x**3 - 3.14139666872719*x**2 + 8867.48444778233*x - 8341449.99033241

x = [2808,2832]

0.000794706322842095*x**3 - 6.71097565619655*x**2 + 18890.8622445963*x - 17723331.6081503

x = [2832,2856]

0.000139443692944009*x**3 - 1.14386435258241*x**2 + 3124.80303276106*x - 2840171.71217781

x = [2856,2880]

-0.00171417090943295*x**3 + 14.7379055605833*x**2 - 42233.5318392403*x + 40340963.0859675

x = [2880,2904]

0.000930202907750737*x**3 - 8.10948421988369*x**2 + 23566.9507285047*x - 22827500.1790677

x = [2904,2928]

-0.000632219425273707*x**3 + 5.50233914542528*x**2 - 15961.7843243525*x + 15436315.3520981

x = [2928,2952]

0.00340712386741817*x**3 - 29.9792523375801*x**2 + 87928.3155378873*x - 85960422.113448

x = [2952,2976]

-0.00547312789625081*x**3 + 48.6642572814723*x**2 - 144227.324857556*x + 142480728.035668

x = [2976,3000]

0.00387311919906657*x**3 - 34.7790367855212*x**2 + 104099.918285817*x - 103859897.162558

x = [3000,3024]

-0.00220684890001546*x**3 + 19.940676106217*x**2 - 60059.2203893974*x + 60299241.5126566

x = [3024,3048]

0.00394154491951379*x**3 - 35.8375526245523*x**2 + 108614.143292449*x - 109723509.078645

x = [3048,3072]

-0.00516812707433599*x**3 + 47.46128808721*x**2 - 145280.723197003*x + 148233675.274638

x = [3072,3096]

0.00233570874820053*x**3 - 21.6940628532865*x**2 + 67164.5148922028*x - 69310248.5287081

Grafica de los contagios por días, por el tiempo

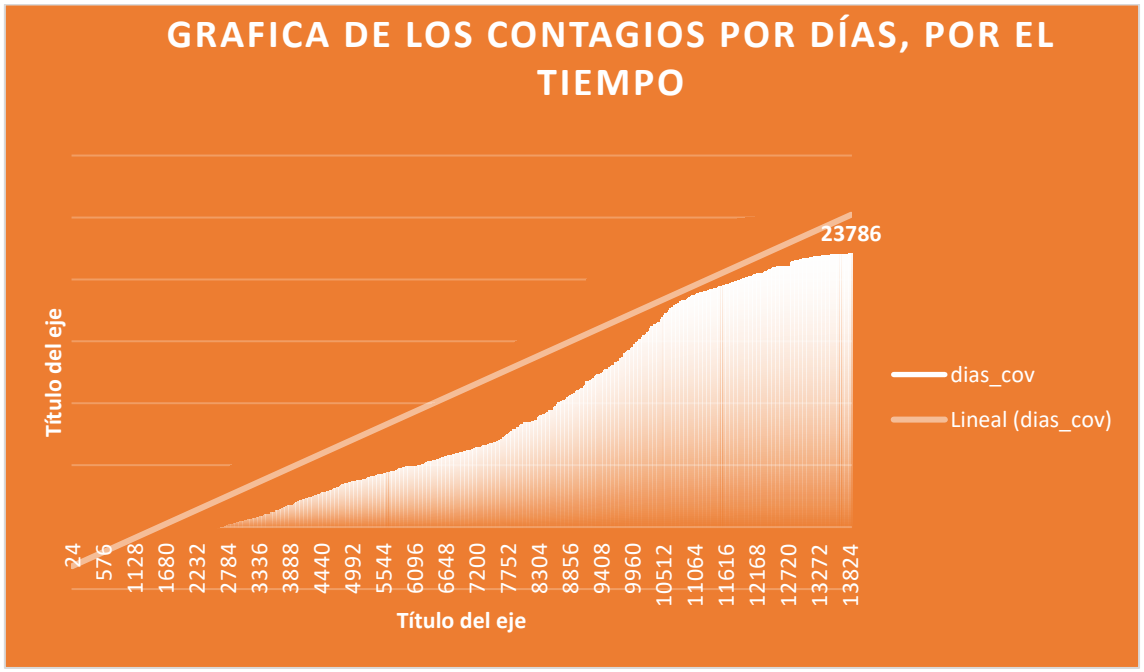


Ilustración 1Contagios de Covid-19 por días

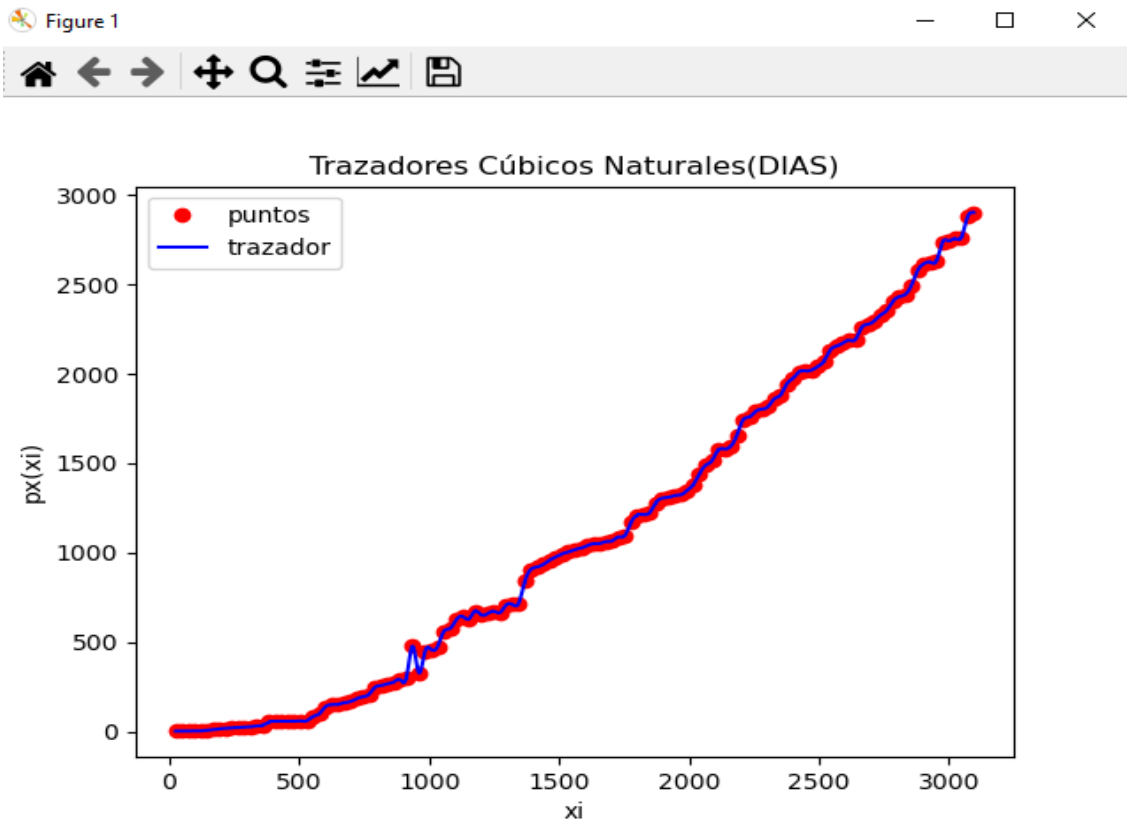


Ilustración 2 Contagios por COVID-Python

SEMANAS

Tabla de Datos de contagios por semanas en la Provincia del Oro

Tiempo = t

Contagios por semanas = s

Tiempo	S
504	13
1680	129
2856	340
4032	731
5208	1220
6384	2383
7560	3960
8232	4250
9912	6252
11088	7180
12264	7900
13440	9105
14616	10574
15792	12430
16968	13896
18144	15177
19320	16540
20496	18435
21672	20290
22848	22759
24024	24872
25200	27094
26376	28795
27552	30600
28728	32667
29904	35169
31080	36776
32256	37746
33432	39552
34608	40975
35784	42181
36960	44069
38136	45276
39312	45946
40488	47908
41664	49460
42840	51309
44016	52598
45192	53953
46368	55679
47544	57246
48720	59038
49896	62152
51072	66157
52248	69649
53424	73019
54600	76237
55776	80691
56952	84116
58128	87847
59304	92133
60480	96275
61656	99688
62832	103432
64008	108565
65184	113709
66360	118895
67536	124434
68712	129368
69888	134754
71064	138293
72240	141195
73416	143388
74592	145044
75768	146783
76944	148346
78120	150263
79296	152222
80472	153992
81648	155639
82824	157851
84000	158452
85176	161419
86352	162640
87528	163647
88704	164387
89880	164925
91056	165231
92232	165463
93408	165722
94584	166144
95760	166358
55248	95122

Tabla 2 Contagios de Covid-19 por semanas

Resolución por semanas

$$s_0(x) = a_0 + b_0(x-504) + c_0(x-504)^2 + d_0(x-504)^3 + e_0(x-504)^4 + f_0(x-504)^5 + g_0(x-504)^6 + h_0(x-504)^7 + i_0(x-504)^8 + j_0(x-504)^9 + k_0(x-504)^{10} + l_0(x-504)^{11} + m_0(x-504)^{12} + n_0(x-504)^{13} + \tilde{n}_0(x-504)^{14} + o_0(x-504)^{15} + p_0(x-504)^{16} + q_0(x-504)^{17} + r_0(x-504)^{18} + s_0(x-504)^{19} + t_0(x-504)^{20} + u_0(x-504)^{21} + v_0(x-504)^{22} + w_0(x-504)^{23} + x_0(x-504)^{24} + y_0(x-504)^{25} + z_0(x-504)^{26} + A_0(x-504)^{27} + B_0(x-504)^{28} + C_0(x-504)^{29} + D_0(x-504)^{30} + E_0(x-504)^{31} + F_0(x-504)^{32} + G_0(x-504)^{33} + H_0(x-504)^{34} + I_0(x-504)^{35} + J_0(x-504)^{36} + K_0(x-504)^{37} + L_0(x-504)^{38} + M_0(x-504)^{39} + N_0(x-504)^{40} + O_0(x-504)^{41}$$

$$s_1(x) = a_1 + b_1(x-1680) + c_1(x-1680)^2 + d_1(x-1680)^3 + e_1(x-1680)^4 + f_1(x-1680)^5 + g_1(x-1680)^6 + h_1(x-1680)^7 + i_1(x-1680)^8 + j_1(x-1680)^9 + k_1(x-1680)^{10} + l_1(x-1680)^{11} + m_1(x-1680)^{12} + n_1(x-1680)^{13} + \tilde{n}_1(x-1680)^{14} + o_1(x-1680)^{15} + p_1(x-1680)^{16} + q_1(x-1680)^{17} + r_1(x-1680)^{18} + s_1(x-1680)^{19} + t_1(x-1680)^{20} + u_1(x-1680)^{21} + v_1(x-1680)^{22} + w_1(x-1680)^{23} + x_1(x-1680)^{24} + y_1(x-1680)^{25} + z_1(x-1680)^{26} + A_1(x-1680)^{27} + B_1(x-1680)^{28} + C_1(x-1680)^{29} + D_1(x-1680)^{30} + E_1(x-1680)^{31} + F_1(x-1680)^{32} + G_1(x-1680)^{33} + H_1(x-1680)^{34} + I_1(x-1680)^{35} + J_1(x-1680)^{36} + K_1(x-1680)^{37} + L_1(x-1680)^{38} + M_1(x-1680)^{39} + N_1(x-1680)^{40} + O_1(x-1680)^{41}$$

$$s_2(x) = a_2 + b_2(x-2856) + c_2(x-2856)^2 + d_2(x-2856)^3 + e_2(x-2856)^4 + f_2(x-2856)^5 + g_2(x-2856)^6 + h_2(x-2856)^7 + i_2(x-2856)^8 + j_2(x-2856)^9 + k_2(x-2856)^{10} + l_2(x-2856)^{11} + m_2(x-2856)^{12} + n_2(x-2856)^{13} + \tilde{n}_2(x-2856)^{14} + o_2(x-2856)^{15} + p_2(x-2856)^{16} + q_2(x-2856)^{17} + r_2(x-2856)^{18} + s_2(x-2856)^{19} + t_2(x-2856)^{20} + u_2(x-2856)^{21} + v_2(x-2856)^{22} + w_2(x-2856)^{23} + x_2(x-2856)^{24} + y_2(x-2856)^{25} + z_2(x-2856)^{26} + A_2(x-2856)^{27} + B_2(x-2856)^{28} + C_2(x-2856)^{29} + D_2(x-2856)^{30} + E_2(x-2856)^{31} + F_2(x-2856)^{32} + G_2(x-2856)^{33} + H_2(x-2856)^{34} + I_2(x-2856)^{35} + J_2(x-2856)^{36} + K_2(x-2856)^{37} + L_2(x-2856)^{38} + M_2(x-2856)^{39} + N_2(x-2856)^{40} + O_2(x-2856)^{41}$$

$$s_3(x) = a_3 + b_3(x-4032) + c_3(x-4032)^3 + d_3(x-4032)^3 + e_3(x-4032)^4 + f_3(x-4032)^5 + g_3(x-4032)^6 + h_3(x-4032)^7 + i_3(x-4032)^8 + j_3(x-4032)^9 + k_3(x-4032)^{10} + l_3(x-4032)^{11} + m_3(x-4032)^{12} + n_3(x-4032)^{13} + \tilde{n}_3(x-4032)^{14} + o_3(x-4032)^{15} + p_3(x-4032)^{16} + q_3(x-4032)^{17} + r_3(x-4032)^{18} + s_3(x-4032)^{19} + t_3(x-4032)^{20} + u_3(x-4032)^{21} + v_3(x-4032)^{22} + w_3(x-4032)^{23} + x_3(x-4032)^{24} + y_3(x-4032)^{25} + z_3(x-4032)^{26} + A_3(x-4032)^{27} + B_3(x-4032)^{28} + C_3(x-4032)^{29} + D_3(x-4032)^{30} + E_3(x-4032)^{31} + F_3(x-4032)^{32} + G_3(x-4032)^{33} + H_3(x-4032)^{34} + I_3(x-4032)^{35} + J_3(x-4032)^{36} + K_3(x-4032)^{37} + L_3(x-4032)^{38} + M_3(x-4032)^{39} + N_3(x-4032)^{40} + O_3(x-4032)^{41}$$

$$s_4(x) = a_4 + b_4(x-5208) + c_4(x-5208)^4 + d_4(x-5208)^4 + e_4(x-5208)^4 + f_4(x-5208)^5 + g_4(x-5208)^6 + h_4(x-5208)^7 + i_4(x-5208)^8 + j_4(x-5208)^9 + k_4(x-5208)^{10} + l_4(x-5208)^{11} + m_4(x-5208)^{12} +$$

$$n_4(x-5208)^{13}+\tilde{n}_4(x-5208)^{14}+o_4(x-5208)^{15}+p_4(x-5208)^{16}+$$
$$q_4(x-5208)^{17}+r_4(x-5208)^{18}+s_4(x-5208)^{19}+t_4(x-5208)^{20}+$$
$$u_4(x-5208)^{21}+v_4(x-5208)^{22}+w_4(x-5208)^{23}+x_4(x-5208)^{24}+$$
$$y_4(x-5208)^{25}+z_4(x-5208)^{26}+A_4(x-5208)^{27}+B_4(x-5208)^{28}+$$
$$C_4(x-5208)^{29}+D_4(x-5208)^{30}+E_4(x-5208)^{31}+F_4(x-5208)^{32}+$$
$$G_4(x-5208)^{33}+H_4(x-5208)^{34}+I_4(x-5208)^{35}+J_4(x-5208)^{36}+$$
$$K_4(x-5208)^{37}+L_4(x-5208)^{38}+M_4(x-5208)^{39}+N_4(x-5208)^{40}+$$
$$O_4(x-5208)^{41}$$

$$s_5(x)=a_5+b_5(x-6384)+c_5(x-6384)^5+d_5(x-6384)^5+e_5(x-6384)^5+$$
$$f_5(x-6384)^5+g_5(x-6384)^6+h_5(x-6384)^7+i_5(x-6384)^8+$$
$$j_5(x-6384)^9+k_5(x-6384)^{10}+l_5(x-6384)^{11}+m_5(x-6384)^{12}+$$
$$n_5(x-6384)^{13}+\tilde{n}_5(x-6384)^{14}+o_5(x-6384)^{15}+p_5(x-6384)^{16}+$$
$$q_5(x-6384)^{17}+r_5(x-6384)^{18}+s_5(x-6384)^{19}+t_5(x-6384)^{20}+$$
$$u_5(x-6384)^{21}+v_5(x-6384)^{22}+w_5(x-6384)^{23}+x_5(x-6384)^{24}+$$
$$y_5(x-6384)^{25}+z_5(x-6384)^{26}+A_5(x-6384)^{27}+B_5(x-6384)^{28}+$$
$$C_5(x-6384)^{29}+D_5(x-6384)^{30}+E_5(x-6384)^{31}+F_5(x-6384)^{32}+$$
$$G_5(x-6384)^{33}+H_5(x-6384)^{34}+I_5(x-6384)^{35}+J_5(x-6384)^{36}+$$
$$K_5(x-6384)^{37}+L_5(x-6384)^{38}+M_5(x-6384)^{39}+N_5(x-6384)^{40}+$$
$$O_5(x-6384)^{41}$$

$$s_6(x)=a_6+b_6(x-7560)+c_6(x-7560)^2+d_6(x-7560)^3+e_6(x-7560)^4+$$
$$f_6(x-7560)^5+g_6(x-7560)^6+h_6(x-7560)^7+i_6(x-7560)^8+$$
$$j_6(x-7560)^9+k_6(x-7560)^{10}+l_6(x-7560)^{11}+m_6(x-7560)^{12}+$$
$$n_6(x-7560)^{13}+\tilde{n}_6(x-7560)^{14}+o_6(x-7560)^{15}+p_6(x-7560)^{16}+$$
$$q_6(x-7560)^{17}+r_6(x-7560)^{18}+s_6(x-7560)^{19}+t_6(x-7560)^{20}+$$
$$u_6(x-7560)^{21}+v_6(x-7560)^{22}+w_6(x-7560)^{23}+x_6(x-7560)^{24}+$$
$$y_6(x-7560)^{25}+z_6(x-7560)^{26}+A_6(x-7560)^{27}+B_6(x-7560)^{28}+$$
$$C_6(x-7560)^{29}+D_6(x-7560)^{30}+E_6(x-7560)^{31}+F_6(x-7560)^{32}+$$
$$G_6(x-7560)^{33}+H_6(x-7560)^{34}+I_6(x-7560)^{35}+J_6(x-7560)^{36}+$$
$$K_6(x-7560)^{37}+L_6(x-7560)^{38}+M_6(x-7560)^{39}+N_6(x-7560)^{40}+$$
$$O_6(x-7560)^{41}$$

$$s_7(x)=a_7+b_7(x-8232)+c_7(x-8232)^2+d_7(x-8232)^3+e_7(x-8232)^4+$$
$$f_7(x-8232)^5+g_7(x-8232)^7+h_7(x-8232)^7+i_7(x-8232)^8+$$
$$j_7(x-8232)^9+k_7(x-8232)^{10}+l_7(x-8232)^{11}+m_7(x-8232)^{12}+$$
$$n_7(x-8232)^{13}+\tilde{n}_7(x-8232)^{14}+o_7(x-8232)^{15}+p_7(x-8232)^{16}+$$
$$q_7(x-8232)^{17}+r_7(x-8232)^{18}+s_7(x-8232)^{19}+t_7(x-8232)^{20}+$$
$$u_7(x-8232)^{21}+v_7(x-8232)^{22}+w_7(x-8232)^{23}+x_7(x-8232)^{24}+$$
$$y_7(x-8232)^{25}+z_7(x-8232)^{26}+A_7(x-8232)^{27}+B_7(x-8232)^{28}+$$
$$C_7(x-8232)^{29}+D_7(x-8232)^{30}+E_7(x-8232)^{31}+F_7(x-8232)^{32}+$$
$$G_7(x-8232)^{33}+H_7(x-8232)^{34}+I_7(x-8232)^{35}+J_7(x-8232)^{36}+$$
$$K_7(x-8232)^{37}+L_7(x-8232)^{38}+M_7(x-8232)^{39}+N_7(x-8232)^{40}+$$
$$O_7(x-8232)^{41}$$

$$s_8(x)=a_8+b_8(x-9912)+c_8(x-9912)^2+d_8(x-9912)^3+e_8(x-9912)^4+$$
$$f_8(x-9912)^5+g_8(x-9912)^8+h_8(x-9912)^8+i_8(x-9912)^8+$$
$$j_8(x-9912)^9+k_8(x-9912)^{10}+l_8(x-9912)^{11}+m_8(x-9912)^{12}+$$
$$n_8(x-9912)^{13}+\tilde{n}_8(x-9912)^{14}+o_8(x-9912)^{15}+p_8(x-9912)^{16}+$$
$$q_8(x-9912)^{17}+r_8(x-9912)^{18}+s_8(x-9912)^{19}+t_8(x-9912)^{20}+$$
$$u_8(x-9912)^{21}+v_8(x-9912)^{22}+w_8(x-9912)^{23}+x_8(x-9912)^{24}+$$

$$y_8(x-9912)^{25}+z_8(x-9912)^{26}+A_8(x-9912)^{27}+B_8(x-9912)^{28}+C_8(x-9912)^{29}+D_8(x-9912)^{30}+E_8(x-9912)^{31}+F_8(x-9912)^{32}+G_8(x-9912)^{33}+H_8(x-9912)^{34}+I_8(x-9912)^{35}+J_8(x-9912)^{36}+K_8(x-9912)^{37}+L_8(x-9912)^{38}+M_8(x-9912)^{39}+N_8(x-9912)^{40}+O_8(x-9912)^{41}$$

$$s_9(x)=a_9+b_9(x-11088)+c_9(x-11088)^2+d_9(x-11088)^3+e_9(x-11088)^4+f_9(x-11088)^5+g_9(x-11088)^9+h_9(x-11088)^9+i_9(x-11088)^9+j_9(x-11088)^9+k_9(x-11088)^{10}+l_9(x-11088)^{11}+m_9(x-11088)^{12}+n_9(x-11088)^{13}+\tilde{n}_9(x-11088)^{14}+o_9(x-11088)^{15}+p_9(x-11088)^{16}+q_9(x-11088)^{17}+r_9(x-11088)^{18}+s_9(x-11088)^{19}+t_9(x-11088)^{20}+u_9(x-11088)^{21}+v_9(x-11088)^{22}+w_9(x-11088)^{23}+x_9(x-11088)^{24}+y_9(x-11088)^{25}+z_9(x-11088)^{26}+A_9(x-11088)^{27}+B_9(x-11088)^{28}+C_9(x-11088)^{29}+D_9(x-11088)^{30}+E_9(x-11088)^{31}+F_9(x-11088)^{32}+G_9(x-11088)^{33}+H_9(x-11088)^{34}+I_9(x-11088)^{35}+J_9(x-11088)^{36}+K_9(x-11088)^{37}+L_9(x-11088)^{38}+M_9(x-11088)^{39}+N_9(x-11088)^{40}+O_9(x-11088)^{41}$$

$$s_{10}(x)=a_{10}+b_{10}(x-12664)+c_{10}(x-12664)^2+d_{10}(x-12664)^3+e_{10}(x-12664)^4+f_{10}(x-12664)^5+g_{10}(x-12664)^{10}+h_{10}(x-12664)^{10}+i_{10}(x-12664)^{10}+j_{10}(x-12664)^{10}+k_{10}(x-12664)^{10}+l_{10}(x-12664)^{11}+m_{10}(x-12664)^{12}+n_{10}(x-12664)^{13}+\tilde{n}_{10}(x-12664)^{14}+o_{10}(x-12664)^{15}+p_{10}(x-12664)^{16}+q_{10}(x-12664)^{17}+r_{10}(x-12664)^{18}+s_{10}(x-12664)^{19}+t_{10}(x-12664)^{20}+u_{10}(x-12664)^{21}+v_{10}(x-12664)^{22}+w_{10}(x-12664)^{23}+x_{10}(x-12664)^{24}+y_{10}(x-12664)^{25}+z_{10}(x-12664)^{26}+A_{10}(x-12664)^{27}+B_{10}(x-12664)^{28}+C_{10}(x-12664)^{29}+D_{10}(x-12664)^{30}+E_{10}(x-12664)^{31}+F_{10}(x-12664)^{32}+G_{10}(x-12664)^{33}+H_{10}(x-12664)^{34}+I_{10}(x-12664)^{35}+J_{10}(x-12664)^{36}+K_{10}(x-12664)^{37}+L_{10}(x-12664)^{38}+M_{10}(x-12664)^{39}+N_{10}(x-12664)^{40}+O_{10}(x-12664)^{41}$$

$$s_{11}(x)=a_{11}+b_{11}(x-13440)+c_{11}(x-13440)^2+d_{11}(x-13440)^3+e_{11}(x-13440)^4+f_{11}(x-13440)^5+g_{11}(x-13440)^{11}+h_{11}(x-13440)^{11}+i_{11}(x-13440)^{11}+j_{11}(x-13440)^{11}+k_{11}(x-13440)^{11}+l_{11}(x-13440)^{11}+m_{11}(x-13440)^{12}+n_{11}(x-13440)^{13}+\tilde{n}_{11}(x-13440)^{14}+o_{11}(x-13440)^{15}+p_{11}(x-13440)^{16}+q_{11}(x-13440)^{17}+r_{11}(x-13440)^{18}+s_{11}(x-13440)^{19}+t_{11}(x-13440)^{20}+u_{11}(x-13440)^{21}+v_{11}(x-13440)^{22}+w_{11}(x-13440)^{23}+x_{11}(x-13440)^{24}+y_{11}(x-13440)^{25}+z_{11}(x-13440)^{26}+A_{11}(x-13440)^{27}+B_{11}(x-13440)^{28}+C_{11}(x-13440)^{29}+D_{11}(x-13440)^{30}+E_{11}(x-13440)^{31}+F_{11}(x-13440)^{32}+G_{11}(x-13440)^{33}+H_{11}(x-13440)^{34}+I_{11}(x-13440)^{35}+J_{11}(x-13440)^{36}+K_{11}(x-13440)^{37}+L_{11}(x-13440)^{38}+M_{11}(x-13440)^{39}+N_{11}(x-13440)^{40}+O_{11}(x-13440)^{41}$$

$$s_{12}(x)=a_{12}+b_{12}(x-14616)+c_{12}(x-14616)^2+d_{12}(x-14616)^3+e_{12}(x-14616)^4+f_{12}(x-14616)^5+g_{12}(x-14616)^{12}+h_{12}(x-14616)^{12}+i_{12}(x-14616)^{12}+j_{12}(x-14616)^{12}+k_{12}(x-14616)^{12}+l_{12}(x-14616)^{12}+m_{12}(x-14616)^{12}+n_{12}(x-14616)^{13}+\tilde{n}_{12}(x-14616)^{14}+o_{12}(x-14616)^{15}+p_{12}(x-14616)^{16}+q_{12}(x-14616)^{17}+r_{12}(x-14616)^{18}+s_{12}(x-14616)^{19}+t_{12}(x-14616)^{20}+u_{12}(x-14616)^{21}+v_{12}(x-14616)^{22}+w_{12}(x-14616)^{23}+x_{12}(x-14616)^{24}+y_{12}(x-14616)^{25}+z_{12}(x-14616)^{26}+A_{12}(x-14616)^{27}+B_{12}(x-14616)^{28}+C_{12}(x-14616)^{29}+D_{12}(x-14616)^{30}+E_{12}(x-14616)^{31}+F_{12}(x-14616)^{32}+G_{12}(x-14616)^{33}+H_{12}(x-14616)^{34}+I_{12}(x-14616)^{35}+$$

$J_{12}(x-14616)^{36}+K_{12}(x-14616)^{37}+L_{12}(x-14616)^{38}+M_{12}(x-14616)^{39}+N_{12}(x-14616)^{40}+O_{12}(x-14616)^{41}$

$s_{13}(x)=a_{13}+b_{13}(x-15792)+c_{13}(x-15792)^2+d_{13}(x-15792)^3+e_{13}(x-15792)^4+f_{13}(x-15792)^5+g_{13}(x-15792)^{13}+h_{13}(x-15792)^{13}+i_{13}(x-15792)^{13}+j_{13}(x-15792)^{13}+k_{13}(x-15792)^{13}+l_{13}(x-15792)^{13}+m_{13}(x-15792)^{13}+n_{13}(x-15792)^{13}+\tilde{n}_{13}(x-15792)^{14}+o_{13}(x-15792)^{15}+p_{13}(x-15792)^{16}+q_{13}(x-15792)^{17}+r_{13}(x-15792)^{18}+s_{13}(x-15792)^{19}+t_{13}(x-15792)^{20}+u_{13}(x-15792)^{21}+v_{13}(x-15792)^{22}+w_{13}(x-15792)^{23}+x_{13}(x-15792)^{24}+y_{13}(x-15792)^{25}+z_{13}(x-15792)^{26}+A_{13}(x-15792)^{27}+B_{13}(x-15792)^{28}+C_{13}(x-15792)^{29}+D_{13}(x-15792)^{30}+E_{13}(x-15792)^{31}+F_{13}(x-15792)^{32}+G_{13}(x-15792)^{33}+H_{13}(x-15792)^{34}+I_{13}(x-15792)^{35}+J_{13}(x-15792)^{36}+K_{13}(x-15792)^{37}+L_{13}(x-15792)^{38}+M_{13}(x-15792)^{39}+N_{13}(x-15792)^{40}+O_{13}(x-15792)^{41}$

$s_{14}(x)=a_{14}+b_{14}(x-16968)+c_{14}(x-16968)^2+d_{14}(x-16968)^3+e_{14}(x-16968)^4+f_{14}(x-16968)^5+g_{14}(x-16968)^{14}+h_{14}(x-16968)^{14}+i_{14}(x-16968)^{14}+j_{14}(x-16968)^{14}+k_{14}(x-16968)^{14}+l_{14}(x-16968)^{14}+m_{14}(x-16968)^{14}+n_{14}(x-16968)^{14}+\tilde{n}_{14}(x-16968)^{14}+o_{14}(x-16968)^{15}+p_{14}(x-16968)^{16}+q_{14}(x-16968)^{17}+r_{14}(x-16968)^{18}+s_{14}(x-16968)^{19}+t_{14}(x-16968)^{20}+u_{14}(x-16968)^{21}+v_{14}(x-16968)^{22}+w_{14}(x-16968)^{23}+x_{14}(x-16968)^{24}+y_{14}(x-16968)^{25}+z_{14}(x-16968)^{26}+A_{14}(x-16968)^{27}+B_{14}(x-16968)^{28}+C_{14}(x-16968)^{29}+D_{14}(x-16968)^{30}+E_{14}(x-16968)^{31}+F_{14}(x-16968)^{32}+G_{14}(x-16968)^{33}+H_{14}(x-16968)^{34}+I_{14}(x-16968)^{35}+J_{14}(x-16968)^{36}+K_{14}(x-16968)^{37}+L_{14}(x-16968)^{38}+M_{14}(x-16968)^{39}+N_{14}(x-16968)^{40}+O_{14}(x-16968)^{41}$

$s_{15}(x)=a_{15}+b_{15}(x-18144)+c_{15}(x-18144)^2+d_{15}(x-18144)^3+e_{15}(x-18144)^4+f_{15}(x-18144)^5+g_{15}(x-18144)^{15}+h_{15}(x-18144)^{15}+i_{15}(x-18144)^{15}+j_{15}(x-18144)^{15}+k_{15}(x-18144)^{15}+l_{15}(x-18144)^{15}+m_{15}(x-18144)^{15}+n_{15}(x-18144)^{15}+\tilde{n}_{15}(x-18144)^{15}+o_{15}(x-18144)^{15}+p_{15}(x-18144)^{16}+q_{15}(x-18144)^{17}+r_{15}(x-18144)^{18}+s_{15}(x-18144)^{19}+t_{15}(x-18144)^{20}+u_{15}(x-18144)^{21}+v_{15}(x-18144)^{22}+w_{15}(x-18144)^{23}+x_{15}(x-18144)^{24}+y_{15}(x-18144)^{25}+z_{15}(x-18144)^{26}+A_{15}(x-18144)^{27}+B_{15}(x-18144)^{28}+C_{15}(x-18144)^{29}+D_{15}(x-18144)^{30}+E_{15}(x-18144)^{31}+F_{15}(x-18144)^{32}+G_{15}(x-18144)^{33}+H_{15}(x-18144)^{34}+I_{15}(x-18144)^{35}+J_{15}(x-18144)^{36}+K_{15}(x-18144)^{37}+L_{15}(x-18144)^{38}+M_{15}(x-18144)^{39}+N_{15}(x-18144)^{40}+O_{15}(x-18144)^{41}$

$s_{16}(x)=a_{16}+b_{16}(x-19320)+c_{16}(x-19320)^2+d_{16}(x-19320)^3+e_{16}(x-19320)^4+f_{16}(x-19320)^5+g_{16}(x-19320)^{16}+h_{16}(x-19320)^{16}+i_{16}(x-19320)^{16}+j_{16}(x-19320)^{16}+k_{16}(x-19320)^{16}+l_{16}(x-19320)^{16}+m_{16}(x-19320)^{16}+n_{16}(x-19320)^{16}+\tilde{n}_{16}(x-19320)^{16}+o_{16}(x-19320)^{16}+p_{16}(x-19320)^{16}+q_{16}(x-19320)^{17}+r_{16}(x-19320)^{18}+s_{16}(x-19320)^{19}+t_{16}(x-19320)^{20}+u_{16}(x-19320)^{21}+v_{16}(x-19320)^{22}+w_{16}(x-19320)^{23}+x_{16}(x-19320)^{24}+y_{16}(x-19320)^{25}+z_{16}(x-19320)^{26}+A_{16}(x-19320)^{27}+B_{16}(x-19320)^{28}+C_{16}(x-19320)^{29}+D_{16}(x-19320)^{30}+E_{16}(x-19320)^{31}+F_{16}(x-19320)^{32}+G_{16}(x-19320)^{33}+H_{16}(x-19320)^{34}+I_{16}(x-19320)^{35}+J_{16}(x-19320)^{36}+K_{16}(x-19320)^{37}+L_{16}(x-19320)^{38}+M_{16}(x-19320)^{39}+N_{16}(x-19320)^{40}+O_{16}(x-19320)^{41}$

$$s_{17}(x) = a_{17} + b_{17}(x - 20496) + c_{17}(x - 20496)^2 + d_{17}(x - 20496)^3 + e_{17}(x - 20496)^4 + f_{17}(x - 20496)^5 + g_{17}(x - 20496)^{17} + h_{17}(x - 20496)^{17} + i_{17}(x - 20496)^{17} + j_{17}(x - 20496)^{17} + k_{17}(x - 20496)^{17} + l_{17}(x - 20496)^{17} + m_{17}(x - 20496)^{17} + n_{17}(x - 20496)^{17} + \tilde{n}_{17}(x - 20496)^{17} + o_{17}(x - 20496)^{17} + p_{17}(x - 20496)^{17} + q_{17}(x - 20496)^{17} + r_{17}(x - 20496)^{18} + s_{17}(x - 20496)^{19} + t_{17}(x - 20496)^{20} + u_{17}(x - 20496)^{21} + v_{17}(x - 20496)^{22} + w_{17}(x - 20496)^{23} + x_{17}(x - 20496)^{24} + y_{17}(x - 20496)^{25} + z_{17}(x - 20496)^{26} + A_{17}(x - 20496)^{27} + B_{17}(x - 20496)^{28} + C_{17}(x - 20496)^{29} + D_{17}(x - 20496)^{30} + E_{17}(x - 20496)^{31} + F_{17}(x - 20496)^{32} + G_{17}(x - 20496)^{33} + H_{17}(x - 20496)^{34} + I_{17}(x - 20496)^{35} + J_{17}(x - 20496)^{36} + K_{17}(x - 20496)^{37} + L_{17}(x - 20496)^{38} + M_{17}(x - 20496)^{39} + N_{17}(x - 20496)^{40} + O_{17}(x - 20496)^{41}$$

$$s_{18}(x) = a_{18} + b_{18}(x - 21672) + c_{18}(x - 21672)^2 + d_{18}(x - 21672)^3 + e_{18}(x - 21672)^4 + f_{18}(x - 21672)^5 + g_{18}(x - 21672)^{18} + h_{18}(x - 21672)^{18} + i_{18}(x - 21672)^{18} + j_{18}(x - 21672)^{18} + k_{18}(x - 21672)^{18} + l_{18}(x - 21672)^{18} + m_{18}(x - 21672)^{18} + n_{18}(x - 21672)^{18} + \tilde{n}_{18}(x - 21672)^{18} + o_{18}(x - 21672)^{18} + p_{18}(x - 21672)^{18} + q_{18}(x - 21672)^{18} + r_{18}(x - 21672)^{18} + s_{18}(x - 21672)^{19} + t_{18}(x - 21672)^{20} + u_{18}(x - 21672)^{21} + v_{18}(x - 21672)^{22} + w_{18}(x - 21672)^{23} + x_{18}(x - 21672)^{24} + y_{18}(x - 21672)^{25} + z_{18}(x - 21672)^{26} + A_{18}(x - 21672)^{27} + B_{18}(x - 21672)^{28} + C_{18}(x - 21672)^{29} + D_{18}(x - 21672)^{30} + E_{18}(x - 21672)^{31} + F_{18}(x - 21672)^{32} + G_{18}(x - 21672)^{33} + H_{18}(x - 21672)^{34} + I_{18}(x - 21672)^{35} + J_{18}(x - 21672)^{36} + K_{18}(x - 21672)^{37} + L_{18}(x - 21672)^{38} + M_{18}(x - 21672)^{39} + N_{18}(x - 21672)^{40} + O_{18}(x - 21672)^{41}$$

$$s_{19}(x) = a_{19} + b_{19}(x - 22848) + c_{19}(x - 22848)^2 + d_{19}(x - 22848)^3 + e_{19}(x - 22848)^4 + f_{19}(x - 22848)^5 + g_{19}(x - 22848)^{19} + h_{19}(x - 22848)^{19} + i_{19}(x - 22848)^{19} + j_{19}(x - 22848)^{19} + k_{19}(x - 22848)^{19} + l_{19}(x - 22848)^{19} + m_{19}(x - 22848)^{19} + n_{19}(x - 22848)^{19} + \tilde{n}_{19}(x - 22848)^{19} + o_{19}(x - 22848)^{19} + p_{19}(x - 22848)^{19} + q_{19}(x - 22848)^{19} + r_{19}(x - 22848)^{19} + s_{19}(x - 22848)^{19} + t_{19}(x - 22848)^{20} + u_{19}(x - 22848)^{21} + v_{19}(x - 22848)^{22} + w_{19}(x - 22848)^{23} + x_{19}(x - 22848)^{24} + y_{19}(x - 22848)^{25} + z_{19}(x - 22848)^{26} + A_{19}(x - 22848)^{27} + B_{19}(x - 22848)^{28} + C_{19}(x - 22848)^{29} + D_{19}(x - 22848)^{30} + E_{19}(x - 22848)^{31} + F_{19}(x - 22848)^{32} + G_{19}(x - 22848)^{33} + H_{19}(x - 22848)^{34} + I_{19}(x - 22848)^{35} + J_{19}(x - 22848)^{36} + K_{19}(x - 22848)^{37} + L_{19}(x - 22848)^{38} + M_{19}(x - 22848)^{39} + N_{19}(x - 22848)^{40} + O_{19}(x - 22848)^{41}$$

$$s_{20}(x) = a_{20} + b_{20}(x - 24024) + c_{20}(x - 24024)^2 + d_{20}(x - 24024)^3 + e_{20}(x - 24024)^4 + f_{20}(x - 24024)^5 + g_{20}(x - 24024)^{20} + h_{20}(x - 24024)^{20} + i_{20}(x - 24024)^{20} + j_{20}(x - 24024)^{20} + k_{20}(x - 24024)^{20} + l_{20}(x - 24024)^{20} + m_{20}(x - 24024)^{20} + n_{20}(x - 24024)^{20} + \tilde{n}_{20}(x - 24024)^{20} + o_{20}(x - 24024)^{20} + p_{20}(x - 24024)^{20} + q_{20}(x - 24024)^{20} + r_{20}(x - 24024)^{20} + s_{20}(x - 24024)^{20} + t_{20}(x - 24024)^{20} + u_{20}(x - 24024)^{21} + v_{20}(x - 24024)^{22} + w_{20}(x - 24024)^{23} + x_{20}(x - 24024)^{24} + y_{20}(x - 24024)^{25} + z_{20}(x - 24024)^{26} + A_{20}(x - 24024)^{27} + B_{20}(x - 24024)^{28} + C_{20}(x - 24024)^{29} + D_{20}(x - 24024)^{30} + E_{20}(x - 24024)^{31} + F_{20}(x - 24024)^{32} + G_{20}(x - 24024)^{33} + H_{20}(x - 24024)^{34} + I_{20}(x - 24024)^{35} + J_{20}(x - 24024)^{36} + K_{20}(x - 24024)^{37} + L_{20}(x - 24024)^{38} + M_{20}(x - 24024)^{39} + N_{20}(x - 24024)^{40} + O_{20}(x - 24024)^{41}$$

$$s_{21}(x) = a_{21} + b_{21}(x - 25200) + c_{21}(x - 25200)^2 + d_{21}(x - 25200)^3 + e_{21}(x - 25200)^4 + f_{21}(x - 25200)^5 + g_{21}(x - 25200)^{21} + h_{21}(x - 25200)^{21} + i_{21}(x - 25200)^{21} + j_{21}(x - 25200)^{21} + k_{21}(x - 25200)^{21} + l_{21}(x - 25200)^{21} + m_{21}(x -$$

$$25200)^{21} + n_{21}(x - 25200)^{21} + \tilde{n}_{21}(x - 25200)^{21} + o_{21}(x - 25200)^{21} + p_{21}(x - 25200)^{21} + q_{21}(x - 25200)^{21} + r_{21}(x - 25200)^{21} + s_{21}(x - 25200)^{21} + t_{21}(x - 25200)^{21} + u_{21}(x - 25200)^{21} + v_{21}(x - 25200)^{22} + w_{21}(x - 25200)^{23} + x_{21}(x - 25200)^{24} + y_{21}(x - 25200)^{25} + z_{21}(x - 25200)^{26} + A_{21}(x - 25200)^{27} + B_{21}(x - 25200)^{28} + C_{21}(x - 25200)^{29} + D_{21}(x - 25200)^{30} + E_{21}(x - 25200)^{31} + F_{21}(x - 25200)^{32} + G_{21}(x - 25200)^{33} + H_{21}(x - 25200)^{34} + I_{21}(x - 25200)^{35} + J_{21}(x - 25200)^{36} + K_{21}(x - 25200)^{37} + L_{21}(x - 25200)^{38} + M_{21}(x - 25200)^{39} + N_{21}(x - 25200)^{40} + O_{21}(x - 25200)^{41}$$

$$s_{22}(x) = a_{22} + b_{22}(x - 26376) + c_{22}(x - 26376)^2 + d_{22}(x - 26376)^3 + e_{22}(x - 26376)^4 + f_{22}(x - 26376)^5 + g_{22}(x - 26376)^{22} + h_{22}(x - 26376)^{22} + i_{22}(x - 26376)^{22} + j_{22}(x - 26376)^{22} + k_{22}(x - 26376)^{22} + l_{22}(x - 26376)^{22} + m_{22}(x - 26376)^{22} + n_{22}(x - 26376)^{22} + \tilde{n}_{22}(x - 26376)^{22} + o_{22}(x - 26376)^{22} + p_{22}(x - 26376)^{22} + q_{22}(x - 26376)^{22} + r_{22}(x - 26376)^{22} + s_{22}(x - 26376)^{22} + t_{22}(x - 26376)^{22} + u_{22}(x - 26376)^{22} + v_{22}(x - 26376)^{22} + w_{22}(x - 26376)^{22} + x_{22}(x - 26376)^{24} + y_{22}(x - 26376)^{25} + z_{22}(x - 26376)^{26} + A_{22}(x - 26376)^{27} + B_{22}(x - 26376)^{28} + C_{22}(x - 26376)^{29} + D_{22}(x - 26376)^{30} + E_{22}(x - 26376)^{31} + F_{22}(x - 26376)^{32} + G_{22}(x - 26376)^{33} + H_{22}(x - 26376)^{34} + I_{22}(x - 26376)^{35} + J_{22}(x - 26376)^{36} + K_{22}(x - 26376)^{37} + L_{22}(x - 26376)^{38} + M_{22}(x - 26376)^{39} + N_{22}(x - 26376)^{40} + O_{22}(x - 26376)^{41}$$

$$s_{23}(x) = a_{23} + b_{23}(x - 27552) + c_{23}(x - 27552)^2 + d_{23}(x - 27552)^3 + e_{23}(x - 27552)^4 + f_{23}(x - 27552)^5 + g_{23}(x - 27552)^{23} + h_{23}(x - 27552)^{23} + i_{23}(x - 27552)^{23} + j_{23}(x - 27552)^{23} + k_{23}(x - 27552)^{23} + l_{23}(x - 27552)^{23} + m_{23}(x - 27552)^{23} + n_{23}(x - 27552)^{23} + \tilde{n}_{23}(x - 27552)^{23} + o_{23}(x - 27552)^{23} + p_{23}(x - 27552)^{23} + q_{23}(x - 27552)^{23} + r_{23}(x - 27552)^{23} + s_{23}(x - 27552)^{23} + t_{23}(x - 27552)^{23} + u_{23}(x - 27552)^{23} + v_{23}(x - 27552)^{23} + w_{23}(x - 27552)^{23} + x_{23}(x - 27552)^{24} + y_{23}(x - 27552)^{25} + z_{23}(x - 27552)^{26} + A_{23}(x - 27552)^{27} + B_{23}(x - 27552)^{28} + C_{23}(x - 27552)^{29} + D_{23}(x - 27552)^{30} + E_{23}(x - 27552)^{31} + F_{23}(x - 27552)^{32} + G_{23}(x - 27552)^{33} + H_{23}(x - 27552)^{34} + I_{23}(x - 27552)^{35} + J_{23}(x - 27552)^{36} + K_{23}(x - 27552)^{37} + L_{23}(x - 27552)^{38} + M_{23}(x - 27552)^{39} + N_{23}(x - 27552)^{40} + O_{23}(x - 27552)^{41}$$

$$s_{24}(x) = a_{24} + b_{24}(x - 28728) + c_{24}(x - 28728)^2 + d_{24}(x - 28728)^3 + e_{24}(x - 28728)^4 + f_{24}(x - 28728)^5 + g_{24}(x - 28728)^{24} + h_{24}(x - 28728)^{24} + i_{24}(x - 28728)^{24} + j_{24}(x - 28728)^{24} + k_{24}(x - 28728)^{24} + l_{24}(x - 28728)^{24} + m_{24}(x - 28728)^{24} + n_{24}(x - 28728)^{24} + \tilde{n}_{24}(x - 28728)^{24} + o_{24}(x - 28728)^{24} + p_{24}(x - 28728)^{24} + q_{24}(x - 28728)^{24} + r_{24}(x - 28728)^{24} + s_{24}(x - 28728)^{24} + t_{24}(x - 28728)^{24} + u_{24}(x - 28728)^{24} + v_{24}(x - 28728)^{24} + w_{24}(x - 28728)^{24} + x_{24}(x - 28728)^{24} + y_{24}(x - 28728)^{25} + z_{24}(x - 28728)^{26} + A_{24}(x - 28728)^{27} + B_{24}(x - 28728)^{28} + C_{24}(x - 28728)^{29} + D_{24}(x - 28728)^{30} + E_{24}(x - 28728)^{31} + F_{24}(x - 28728)^{32} + G_{24}(x - 28728)^{33} + H_{24}(x - 28728)^{34} + I_{24}(x - 28728)^{35} + J_{24}(x - 28728)^{36} + K_{24}(x - 28728)^{37} + L_{24}(x - 28728)^{38} + M_{24}(x - 28728)^{39} + N_{24}(x - 28728)^{40} + O_{24}(x - 28728)^{41}$$

$$s_{25}(x) = a_{25} + b_{25}(x - 29904) + c_{25}(x - 29904)^2 + d_{25}(x - 29904)^3 + e_{25}(x - 29904)^4 + f_{25}(x - 29904)^5 + g_{25}(x - 29904)^{25} + h_{25}(x - 29904)^{25} + i_{25}(x - 29904)^{25} + j_{25}(x - 29904)^{25} + k_{25}(x - 29904)^{25} + l_{25}(x - 29904)^{25} + m_{25}(x - 29904)^{25} + n_{25}(x - 29904)^{25} + \tilde{n}_{25}(x - 29904)^{25} + o_{25}(x - 29904)^{25} + p_{25}(x - 29904)^{25} + q_{25}(x - 29904)^{25} + r_{25}(x - 29904)^{25} + s_{25}(x - 29904)^{25} + t_{25}(x - 29904)^{25} + u_{25}(x - 29904)^{25} + v_{25}(x - 29904)^{25} +$$

$$w_{25}(x-29904)^{25}+x_{25}(x-29904)^{25}+y_{25}(x-29904)^{25}+z_{25}(x-29904)^{26}+A_{25}(x-29904)^{27}+B_{25}(x-29904)^{28}+C_{25}(x-29904)^{29}+D_{25}(x-29904)^{30}+E_{25}(x-29904)^{31}+F_{25}(x-29904)^{32}+G_{25}(x-29904)^{33}+H_{25}(x-29904)^{34}+I_{25}(x-29904)^{35}+J_{25}(x-29904)^{36}+K_{25}(x-29904)^{37}+L_{25}(x-29904)^{38}+M_{25}(x-29904)^{39}+N_{25}(x-29904)^{40}+O_{25}(x-29904)^{41}$$

$$s_{26}(x)=a_{26}+b_{26}(x-31080)+c_{26}(x-31080)^2+d_{26}(x-31080)^3+e_{26}(x-31080)^4+f_{26}(x-31080)^5+g_{26}(x-31080)^{26}+h_{26}(x-31080)^{26}+i_{26}(x-31080)^{26}+j_{26}(x-31080)^{26}+k_{26}(x-31080)^{26}+l_{26}(x-31080)^{26}+m_{26}(x-31080)^{26}+n_{26}(x-31080)^{26}+\tilde{n}_{26}(x-31080)^{26}+o_{26}(x-31080)^{26}+p_{26}(x-31080)^{26}+q_{26}(x-31080)^{26}+r_{26}(x-31080)^{26}+s_{26}(x-31080)^{26}+t_{26}(x-31080)^{26}+u_{26}(x-31080)^{26}+v_{26}(x-31080)^{26}+w_{26}(x-31080)^{26}+x_{26}(x-31080)^{26}+y_{26}(x-31080)^{26}+z_{26}(x-31080)^{26}+A_{26}(x-31080)^{27}+B_{26}(x-31080)^{28}+C_{26}(x-31080)^{29}+D_{26}(x-31080)^{30}+E_{26}(x-31080)^{31}+F_{26}(x-31080)^{32}+G_{26}(x-31080)^{33}+H_{26}(x-31080)^{34}+I_{26}(x-31080)^{35}+J_{26}(x-31080)^{36}+K_{26}(x-31080)^{37}+L_{26}(x-31080)^{38}+M_{26}(x-31080)^{39}+N_{26}(x-31080)^{40}+O_{26}(x-31080)^{41}$$

$$s_{27}(x)=a_{27}+b_{27}(x-32256)+c_{27}(x-32256)^2+d_{27}(x-32256)^3+e_{27}(x-32256)^4+f_{27}(x-32256)^5+g_{27}(x-32256)^{27}+h_{27}(x-32256)^{27}+i_{27}(x-32256)^{27}+j_{27}(x-32256)^{27}+k_{27}(x-32256)^{27}+l_{27}(x-32256)^{27}+m_{27}(x-32256)^{27}+n_{27}(x-32256)^{27}+\tilde{n}_{27}(x-32256)^{27}+o_{27}(x-32256)^{27}+p_{27}(x-32256)^{27}+q_{27}(x-32256)^{27}+r_{27}(x-32256)^{27}+s_{27}(x-32256)^{27}+t_{27}(x-32256)^{27}+u_{27}(x-32256)^{27}+v_{27}(x-32256)^{27}+w_{27}(x-32256)^{27}+x_{27}(x-32256)^{27}+y_{27}(x-32256)^{27}+z_{27}(x-32256)^{27}+A_{27}(x-32256)^{27}+B_{27}(x-32256)^{28}+C_{27}(x-32256)^{29}+D_{27}(x-32256)^{30}+E_{27}(x-32256)^{31}+F_{27}(x-32256)^{32}+G_{27}(x-32256)^{33}+H_{27}(x-32256)^{34}+I_{27}(x-32256)^{35}+J_{27}(x-32256)^{36}+K_{27}(x-32256)^{37}+L_{27}(x-32256)^{38}+M_{27}(x-32256)^{39}+N_{27}(x-32256)^{40}+O_{27}(x-32256)^{41}$$

$$s_{28}(x)=a_{28}+b_{28}(x-33432)+c_{28}(x-33432)^2+d_{28}(x-33432)^3+e_{28}(x-33432)^4+f_{28}(x-33432)^5+g_{28}(x-33432)^{28}+h_{28}(x-33432)^{28}+i_{28}(x-33432)^{28}+j_{28}(x-33432)^{28}+k_{28}(x-33432)^{28}+l_{28}(x-33432)^{28}+m_{28}(x-33432)^{28}+n_{28}(x-33432)^{28}+\tilde{n}_{28}(x-33432)^{28}+o_{28}(x-33432)^{28}+p_{28}(x-33432)^{28}+q_{28}(x-33432)^{28}+r_{28}(x-33432)^{28}+s_{28}(x-33432)^{28}+t_{28}(x-33432)^{28}+u_{28}(x-33432)^{28}+v_{28}(x-33432)^{28}+w_{28}(x-33432)^{28}+x_{28}(x-33432)^{28}+y_{28}(x-33432)^{28}+z_{28}(x-33432)^{28}+A_{28}(x-33432)^{28}+B_{28}(x-33432)^{28}+C_{28}(x-33432)^{29}+D_{28}(x-33432)^{30}+E_{28}(x-33432)^{31}+F_{28}(x-33432)^{32}+G_{28}(x-33432)^{33}+H_{28}(x-33432)^{34}+I_{28}(x-33432)^{35}+J_{28}(x-33432)^{36}+K_{28}(x-33432)^{37}+L_{28}(x-33432)^{38}+M_{28}(x-33432)^{39}+N_{28}(x-33432)^{40}+O_{28}(x-33432)^{41}$$

$$s_{29}(x) = a_{29} + b_{29}(x - 34608) + c_{29}(x - 34608)^2 + d_{29}(x - 34608)^3 + e_{29}(x - 34608)^4 + f_{29}(x - 34608)^5 + g_{29}(x - 34608)^6 + h_{29}(x - 34608)^7 + i_{29}(x - 34608)^8 + j_{29}(x - 34608)^9 + k_{29}(x - 34608)^{10} + l_{29}(x - 34608)^{11} + m_{29}(x - 34608)^8 + n_{29}(x - 34608)^9 + \tilde{n}_{29}(x - 34608)^{10} + o_{29}(x - 34608)^{11} + p_{29}(x - 34608)^{12} + q_{29}(x - 34608)^{13} + r_{29}(x - 34608)^{14} + s_{29}(x - 34608)^{15} + t_{29}(x - 34608)^{16} + u_{29}(x - 34608)^{17} + v_{29}(x - 34608)^{18} + w_{29}(x - 34608)^{19} + x_{29}(x - 34608)^{20} + y_{29}(x - 34608)^{21} + z_{29}(x - 34608)^{22} + A_{29}(x - 34608)^{23} + B_{29}(x - 34608)^{24} + C_{29}(x - 34608)^{25} + D_{29}(x - 34608)^{26} + E_{29}(x - 34608)^{27} + F_{29}(x - 34608)^{28} + G_{29}(x - 34608)^{29} + H_{29}(x - 34608)^{30} + I_{29}(x - 34608)^{31} + J_{29}(x - 34608)^{32} + K_{29}(x - 34608)^{33} + L_{29}(x - 34608)^{34} + M_{29}(x - 34608)^{35} + N_{29}(x - 34608)^{40} + O_{29}(x - 34608)^{41}$$

$$s_{30}(x) = a_{30} + b_{30}(x - 35784) + c_{30}(x - 35784)^2 + d_{30}(x - 35784)^3 + e_{30}(x - 35784)^4 + f_{30}(x - 35784)^5 + g_{30}(x - 35784)^{30} + h_{30}(x - 35784)^{30} + i_{30}(x - 35784)^{30} + j_{30}(x - 35784)^{30} + k_{30}(x - 35784)^{30} + l_{30}(x - 35784)^{30} + m_{30}(x - 35784)^{30} + n_{30}(x - 35784)^{30} + \tilde{n}_{30}(x - 35784)^{30} + o_{30}(x - 35784)^{30} + p_{30}(x - 35784)^{30} + q_{30}(x - 35784)^{30} + r_{30}(x - 35784)^{30} + s_{30}(x - 35784)^{30} + t_{30}(x - 35784)^{30} + u_{30}(x - 35784)^{30} + v_{30}(x - 35784)^{30} + w_{30}(x - 35784)^{30} + x_{30}(x - 35784)^{30} + y_{30}(x - 35784)^{30} + z_{30}(x - 35784)^{30} + A_{30}(x - 35784)^{30} + B_{30}(x - 35784)^{30} + C_{30}(x - 35784)^{30} + D_{30}(x - 35784)^{30} + E_{30}(x - 35784)^{31} + F_{30}(x - 35784)^{32} + G_{30}(x - 35784)^{33} + H_{30}(x - 35784)^{34} + I_{30}(x - 35784)^{35} + J_{30}(x - 35784)^{36} + K_{30}(x - 35784)^{37} + L_{30}(x - 35784)^{38} + M_{30}(x - 35784)^{39} + N_{30}(x - 35784)^{40} + O_{30}(x - 35784)^{41}$$

$$s_{31}(x) = a_{31} + b_{31}(x - 36960) + c_{31}(x - 36960)^2 + d_{31}(x - 36960)^3 + e_{31}(x - 36960)^4 + f_{31}(x - 36960)^5 + g_{31}(x - 36960)^{31} + h_{31}(x - 36960)^{31} + i_{31}(x - 36960)^{31} + j_{31}(x - 36960)^{31} + k_{31}(x - 36960)^{31} + l_{31}(x - 36960)^{31} + m_{31}(x - 36960)^{31} + n_{31}(x - 36960)^{31} + \tilde{n}_{31}(x - 36960)^{31} + o_{31}(x - 36960)^{31} + p_{31}(x - 36960)^{31} + q_{31}(x - 36960)^{31} + r_{31}(x - 36960)^{31} + s_{31}(x - 36960)^{31} + t_{31}(x - 36960)^{31} + u_{31}(x - 36960)^{31} + v_{31}(x - 36960)^{31} + w_{31}(x - 36960)^{31} + x_{31}(x - 36960)^{31} + y_{31}(x - 36960)^{31} + z_{31}(x - 36960)^{31} + A_{31}(x - 36960)^{31} + B_{31}(x - 36960)^{31} + C_{31}(x - 36960)^{31} + D_{31}(x - 36960)^{31} + E_{31}(x - 36960)^{31} + F_{31}(x - 36960)^{32} + G_{31}(x - 36960)^{33} + H_{31}(x - 36960)^{34} + I_{31}(x - 36960)^{35} + J_{31}(x - 36960)^{36} + K_{31}(x - 36960)^{37} + L_{31}(x - 36960)^{38} + M_{31}(x - 36960)^{39} + N_{31}(x - 36960)^{40} + O_{31}(x - 36960)^{41}$$

$$s_{32}(x) = a_{32} + b_{32}(x - 38136) + c_{32}(x - 38136)^2 + d_{32}(x - 38136)^3 + e_{32}(x - 38136)^4 + f_{32}(x - 38136)^5 + g_{32}(x - 38136)^{32} + h_{32}(x - 38136)^{32} + i_{32}(x - 38136)^{32} + j_{32}(x - 38136)^{32} + k_{32}(x - 38136)^{32} + l_{32}(x - 38136)^{32} + m_{32}(x - 38136)^{32} + n_{32}(x - 38136)^{32} + \tilde{n}_{32}(x - 38136)^{32} + o_{32}(x - 38136)^{32} + p_{32}(x - 38136)^{32} + q_{32}(x - 38136)^{32} + r_{32}(x - 38136)^{32} + s_{32}(x - 38136)^{32} + t_{32}(x - 38136)^{32} + u_{32}(x - 38136)^{32} + v_{32}(x - 38136)^{32} + w_{32}(x - 38136)^{32} + x_{32}(x - 38136)^{32} + y_{32}(x - 38136)^{32} + z_{32}(x - 38136)^{32} + A_{32}(x - 38136)^{32} + B_{32}(x - 38136)^{32} + C_{32}(x - 38136)^{32} + D_{32}(x - 38136)^{32} + E_{32}(x - 38136)^{32} + F_{32}(x - 38136)^{32} + G_{32}(x - 38136)^{33} + H_{32}(x - 38136)^{34} + I_{32}(x - 38136)^{35} + J_{32}(x - 38136)^{36} + K_{32}(x - 38136)^{37} + L_{32}(x - 38136)^{38} + M_{32}(x - 38136)^{39} + N_{32}(x - 38136)^{40} + O_{32}(x - 38136)^{41}$$

$$s_{33}(x) = a_{33} + b_{33}(x - 39312) + c_{33}(x - 39312)^2 + d_{33}(x - 39312)^3 + e_{33}(x - 39312)^4 + f_{33}(x - 39312)^5 + g_{33}(x - 39312)^6 + h_{33}(x - 39312)^7 + i_{33}(x - 39312)^8 + j_{33}(x - 39312)^9 + k_{33}(x - 39312)^{10} + l_{33}(x - 39312)^{11} + m_{33}(x - 39312)^8 + n_{33}(x - 39312)^9 + \tilde{n}_{33}(x - 39312)^{10} + o_{33}(x - 39312)^{11} + p_{33}(x - 39312)^{12} + q_{33}(x - 39312)^{13} + r_{33}(x - 39312)^{14} + s_{33}(x - 39312)^{15} + t_{33}(x - 39312)^{16} + u_{33}(x - 39312)^{17} + v_{33}(x - 39312)^{18} + w_{33}(x - 39312)^{19} + x_{33}(x - 39312)^{20} + y_{33}(x - 39312)^{21} + z_{33}(x - 39312)^{22} + A_{33}(x - 39312)^{23} + B_{33}(x - 39312)^{24} + C_{33}(x - 39312)^{25} + D_{33}(x - 39312)^{26} + E_{33}(x - 39312)^{27} + F_{33}(x - 39312)^{28} + G_{33}(x - 39312)^{33} + H_{33}(x - 39312)^{30} + I_{33}(x - 39312)^{31} + J_{33}(x - 39312)^{32} + K_{33}(x - 39312)^{33} + L_{33}(x - 39312)^{34} + M_{33}(x - 39312)^{35} + N_{33}(x - 39312)^{40} + O_{33}(x - 39312)^{41}$$

$$s_{34}(x) = a_{34} + b_{34}(x - 40488) + c_{34}(x - 40488)^2 + d_{34}(x - 40488)^3 + e_{34}(x - 40488)^4 + f_{34}(x - 40488)^5 + g_{34}(x - 40488)^6 + h_{34}(x - 40488)^7 + i_{34}(x - 40488)^8 + j_{34}(x - 40488)^9 + k_{34}(x - 40488)^{10} + l_{34}(x - 40488)^{11} + m_{34}(x - 40488)^8 + n_{34}(x - 40488)^9 + \tilde{n}_{34}(x - 40488)^{10} + o_{34}(x - 40488)^{11} + p_{34}(x - 40488)^{12} + q_{34}(x - 40488)^{13} + r_{34}(x - 40488)^{14} + s_{34}(x - 40488)^{15} + t_{34}(x - 40488)^{16} + u_{34}(x - 40488)^{17} + v_{34}(x - 40488)^{18} + w_{34}(x - 40488)^{19} + x_{34}(x - 40488)^{20} + y_{34}(x - 40488)^{21} + z_{34}(x - 40488)^{22} + A_{34}(x - 40488)^{23} + B_{34}(x - 40488)^{24} + C_{34}(x - 40488)^{25} + D_{34}(x - 40488)^{26} + E_{34}(x - 40488)^{27} + F_{34}(x - 40488)^{28} + G_{34}(x - 40488)^{34} + H_{34}(x - 40488)^{30} + I_{34}(x - 40488)^{31} + J_{34}(x - 40488)^{32} + K_{34}(x - 40488)^{34} + L_{34}(x - 40488)^{34} + M_{34}(x - 40488)^{35} + N_{34}(x - 40488)^{40} + O_{34}(x - 40488)^{41}$$

$$s_{35}(x) = a_{35} + b_{35}(x - 41664) + c_{35}(x - 41664)^2 + d_{35}(x - 41664)^3 + e_{35}(x - 41664)^4 + f_{35}(x - 41664)^5 + g_{35}(x - 41664)^6 + h_{35}(x - 41664)^7 + i_{35}(x - 41664)^8 + j_{35}(x - 41664)^9 + k_{35}(x - 41664)^{10} + l_{35}(x - 41664)^{11} + m_{35}(x - 41664)^8 + n_{35}(x - 41664)^9 + \tilde{n}_{35}(x - 41664)^{10} + o_{35}(x - 41664)^{11} + p_{35}(x - 41664)^{12} + q_{35}(x - 41664)^{13} + r_{35}(x - 41664)^{14} + s_{35}(x - 41664)^{15} + t_{35}(x - 41664)^{16} + u_{35}(x - 41664)^{17} + v_{35}(x - 41664)^{18} + w_{35}(x - 41664)^{19} + x_{35}(x - 41664)^{20} + y_{35}(x - 41664)^{21} + z_{35}(x - 41664)^{22} + A_{35}(x - 41664)^{23} + B_{35}(x - 41664)^{24} + C_{35}(x - 41664)^{25} + D_{35}(x - 41664)^{26} + E_{35}(x - 41664)^{27} + F_{35}(x - 41664)^{28} + G_{35}(x - 41664)^{35} + H_{35}(x - 41664)^{30} + I_{35}(x - 41664)^{31} + J_{35}(x - 41664)^{32} + K_{35}(x - 41664)^{35} + L_{35}(x - 41664)^{35} + M_{35}(x - 41664)^{35} + N_{35}(x - 41664)^{40} + O_{35}(x - 41664)^{41}$$

$$s_{36}(x) = a_{36} + b_{36}(x - 42840) + c_{36}(x - 42840)^2 + d_{36}(x - 42840)^3 + e_{36}(x - 42840)^4 + f_{36}(x - 42840)^5 + g_{36}(x - 42840)^6 + h_{36}(x - 42840)^7 + i_{36}(x - 42840)^8 + j_{36}(x - 42840)^9 + k_{36}(x - 42840)^{10} + l_{36}(x - 42840)^{11} + m_{36}(x - 42840)^8 + n_{36}(x - 42840)^9 + \tilde{n}_{36}(x - 42840)^{10} + o_{36}(x - 42840)^{11} + p_{36}(x - 42840)^{12} + q_{36}(x - 42840)^{13} + r_{36}(x - 42840)^{14} + s_{36}(x - 42840)^{15} + t_{36}(x - 42840)^{16} + u_{36}(x - 42840)^{17} + v_{36}(x - 42840)^{18} + w_{36}(x - 42840)^{19} + x_{36}(x - 42840)^{20} + y_{36}(x - 42840)^{21} + z_{36}(x - 42840)^{22} + A_{36}(x - 42840)^{23} + B_{36}(x - 42840)^{24} + C_{36}(x - 42840)^{25} + D_{36}(x - 42840)^{26} + E_{36}(x - 42840)^{27} + F_{36}(x - 42840)^{28} + G_{36}(x - 42840)^{36} + H_{36}(x - 42840)^{30} + I_{36}(x - 42840)^{31} + J_{36}(x - 42840)^{32} + K_{36}(x - 42840)^{36} + L_{36}(x - 42840)^{36} + M_{36}(x - 42840)^{36} + N_{36}(x - 42840)^{40} + O_{36}(x - 42840)^{41}$$

$$s_{37}(x) = a_{37} + b_{37}(x - 44016) + c_{37}(x - 44016)^2 + d_{37}(x - 44016)^3 + e_{37}(x - 44016)^4 + f_{37}(x - 44016)^5 + g_{37}(x - 44016)^6 + h_{37}(x - 44016)^7 + i_{37}(x - 44016)^8 + j_{37}(x - 44016)^9 + k_{37}(x - 44016)^{10} + l_{37}(x - 44016)^{11} + m_{37}(x - 44016)^8 + n_{37}(x - 44016)^9 + \tilde{n}_{37}(x - 44016)^{10} + o_{37}(x - 44016)^{11} + p_{37}(x - 44016)^{12} + q_{37}(x - 44016)^{13} + r_{37}(x - 44016)^{14} + s_{37}(x - 44016)^{15} + t_{37}(x - 44016)^{16} + u_{37}(x - 44016)^{17} + v_{37}(x - 44016)^{18} + w_{37}(x - 44016)^{19} + x_{37}(x - 44016)^{20} + y_{37}(x - 44016)^{21} + z_{37}(x - 44016)^{22} + A_{37}(x - 44016)^{23} + B_{37}(x - 44016)^{24} + C_{37}(x - 44016)^{25} + D_{37}(x - 44016)^{26} + E_{37}(x - 44016)^{27} + F_{37}(x - 44016)^{28} + G_{37}(x - 44016)^{37} + H_{37}(x - 44016)^{30} + I_{37}(x - 44016)^{31} + J_{37}(x - 44016)^{32} + K_{37}(x - 44016)^{37} + L_{37}(x - 44016)^{37} + M_{37}(x - 44016)^{37} + N_{37}(x - 44016)^{40} + O_{37}(x - 44016)^{41}$$

$$s_{38}(x) = a_{38} + b_{38}(x - 45192) + c_{38}(x - 45192)^2 + d_{38}(x - 45192)^3 + e_{38}(x - 45192)^4 + f_{38}(x - 45192)^5 + g_{38}(x - 45192)^6 + h_{38}(x - 45192)^7 + i_{38}(x - 45192)^8 + j_{38}(x - 45192)^9 + k_{38}(x - 45192)^{10} + l_{38}(x - 45192)^{11} + m_{38}(x - 45192)^8 + n_{38}(x - 45192)^9 + \tilde{n}_{38}(x - 45192)^{10} + o_{38}(x - 45192)^{11} + p_{38}(x - 45192)^{12} + q_{38}(x - 45192)^{13} + r_{38}(x - 45192)^{14} + s_{38}(x - 45192)^{15} + t_{38}(x - 45192)^{16} + u_{38}(x - 45192)^{17} + v_{38}(x - 45192)^{18} + w_{38}(x - 45192)^{19} + x_{38}(x - 45192)^{20} + y_{38}(x - 45192)^{21} + z_{38}(x - 45192)^{22} + A_{38}(x - 45192)^{23} + B_{38}(x - 45192)^{24} + C_{38}(x - 45192)^{25} + D_{38}(x - 45192)^{26} + E_{38}(x - 45192)^{27} + F_{38}(x - 45192)^{28} + G_{38}(x - 45192)^{38} + H_{38}(x - 45192)^{30} + I_{38}(x - 45192)^{31} + J_{38}(x - 45192)^{32} + K_{38}(x - 45192)^{38} + L_{38}(x - 45192)^{38} + M_{38}(x - 45192)^{38} + N_{38}(x - 45192)^{40} + O_{38}(x - 45192)^{41}$$

$$s_{39}(x) = a_{39} + b_{39}(x - 46368) + c_{39}(x - 46368)^2 + d_{39}(x - 46368)^3 + e_{39}(x - 46368)^4 + f_{39}(x - 46368)^5 + g_{39}(x - 46368)^6 + h_{39}(x - 46368)^7 + i_{39}(x - 46368)^8 + j_{39}(x - 46368)^9 + k_{39}(x - 46368)^{10} + l_{39}(x - 46368)^{11} + m_{39}(x - 46368)^8 + n_{39}(x - 46368)^9 + \tilde{n}_{39}(x - 46368)^{10} + o_{39}(x - 46368)^{11} + p_{39}(x - 46368)^{12} + q_{39}(x - 46368)^{13} + r_{39}(x - 46368)^{14} + s_{39}(x - 46368)^{15} + t_{39}(x - 46368)^{16} + u_{39}(x - 46368)^{17} + v_{39}(x - 46368)^{18} + w_{39}(x - 46368)^{19} + x_{39}(x - 46368)^{20} + y_{39}(x - 46368)^{21} + z_{39}(x - 46368)^{22} + A_{39}(x - 46368)^{23} + B_{39}(x - 46368)^{24} + C_{39}(x - 46368)^{25} + D_{39}(x - 46368)^{26} + E_{39}(x - 46368)^{27} + F_{39}(x - 46368)^{28} + G_{39}(x - 46368)^{39} + H_{39}(x - 46368)^{30} + I_{39}(x - 46368)^{31} + J_{39}(x - 46368)^{32} + K_{39}(x - 46368)^{39} + L_{39}(x - 46368)^{39} + M_{39}(x - 46368)^{39} + N_{39}(x - 46368)^{40} + O_{39}(x - 46368)^{41}$$

$$s_{40}(x) = a_{40} + b_{40}(x - 47544) + c_{40}(x - 47544)^2 + d_{40}(x - 47544)^3 + e_{40}(x - 47544)^4 + f_{40}(x - 47544)^5 + g_{40}(x - 47544)^6 + h_{40}(x - 47544)^7 + i_{40}(x - 47544)^8 + j_{40}(x - 47544)^9 + k_{40}(x - 47544)^{10} + l_{40}(x - 47544)^{11} + m_{40}(x - 47544)^8 + n_{40}(x - 47544)^9 + \tilde{n}_{40}(x - 47544)^{10} + o_{40}(x - 47544)^{11} + p_{40}(x - 47544)^{12} + q_{40}(x - 47544)^{13} + r_{40}(x - 47544)^{14} + s_{40}(x - 47544)^{15} + t_{40}(x - 47544)^{16} + u_{40}(x - 47544)^{17} + v_{40}(x - 47544)^{18} + w_{40}(x - 47544)^{19} + x_{40}(x - 47544)^{20} + y_{40}(x - 47544)^{21} + z_{40}(x - 47544)^{22} + A_{40}(x - 47544)^{23} + B_{40}(x - 47544)^{24} + C_{40}(x - 47544)^{25} + D_{40}(x - 47544)^{26} + E_{40}(x - 47544)^{27} + F_{40}(x - 47544)^{28} + G_{40}(x - 47544)^{40} + H_{40}(x - 47544)^{30} + I_{40}(x - 47544)^{31} + J_{40}(x - 47544)^{32} + K_{40}(x - 47544)^{40} + L_{40}(x - 47544)^{40} + M_{40}(x - 47544)^{40} + N_{40}(x - 47544)^{40} + O_{40}(x - 47544)^{41}$$

Polinomio (semanas)

Polinomios por tramos:

x = [504,1680]

7.43250818423969e-9*x**3 - 1.12379523745704e-5*x**2 + 0.0940244033404893*x - 32.4852194766874

x = [1680,2856]

2.12494003743628e-8*x**3 - 8.08750890127908e-5*x**2 + 0.2110147928927*x - 97.9998376259251

x = [2856,4032]

-4.01667937856623e-8*x**3 + 0.00044533862550304*x**2 - 1.2918522527715*x + 1332.72958984639

x = [4032,5208]

8.89990464921178e-8*x**3 - 0.00111705114144972*x**2 + 5.00770424335661*x - 7133.87434094979

x = [5208,6384]

3.83314308302781e-8*x**3 - 0.000325420314349141*x**2 + 0.884890895816776*x + 23.3296303793677

x = [6384,7560]

-4.02189030201082e-7*x**3 + 0.00811142755532347*x**2 - 52.9759459041732*x + 114639.190340758

x = [7560,8232]

8.88493305315806e-7*x**3 - 0.0211612478141996*x**2 + 168.325479889421*x - 443040.402659099

x = [8232,9912]

-2.39343560061658e-7*x**3 + 0.0066918114131623*x**2 - 60.9609036702219*x + 186121.433828561

x = [9912,11088]

9.87778030678861e-8*x**3 - 0.00336256544085782*x**2 + 38.6980797068256*x - 143151.847249204

x = [11088,12264]

1.01533673001925e-7*x**3 - 0.00345423669834368*x**2 + 39.7145306098287*x - 146908.649786704

x = [12264,13440]

-7.88127548879642e-8*x**3 + 0.00318106907658111*x**2 - 41.6608594138488*x + 185753.94463009

x = [13440,14616]

7.78327252202581e-8*x**3 - 0.00313487668138242*x**2 + 43.2254515731809*x - 194536.728591803

x = [14616,15792]

-1.56890053578816e-7*x**3 + 0.00715724772339937*x**2 - 107.20423872711*x + 538356.722551212

x = [15792,16968]

7.19792955513086e-8*x**3 - 0.0036856665609894*x**2 + 64.0270636519577*x - 363004.853172198

x = [16968,18144]

-4.98030793599776e-9*x**3 + 0.000231885094928449*x**2 - 2.44595284565629*x + 12966.5281383067

x = [18144,19320]

1.12110234360207e-7*x**3 - 0.00614158730333859*x**2 + 113.194330348501*x - 686425.904619955

x = [19320,20496]

-1.66772486525858e-7*x**3 + 0.0100224551992177*x**2 - 199.094970800887*x + 1324717.1947821

x = [20496,21672]

2.03278338889949e-7*x**3 - 0.0127312299539494*x**2 + 267.264560098426*x - 1861451.120322

x = [21672,22848]

-2.44220767904496e-7*x**3 + 0.0163633719733983*x**2 - 363.273652871052*x + 2693556.93016951

x = [22848,24024]

1.77188068973357e-7*x**3 - 0.0125216753415573*x**2 + 296.691908181053*x - 2332740.78280333

x = [24024,25200]

-1.7862042691066e-7*x**3 + 0.0131221545737956*x**2 - 319.375461705386*x + 2600726.71524727

x = [25200,26376]

1.4993023849872e-7*x**3 - 0.0117162757311536*x**2 + 306.552981979333*x - 2657072.21170436

x = [26376,27552]

-3.68114396134224e-8*x**3 + 0.00306021977450405*x**2 - 83.1918634778921*x + 769564.46955556

x = [27552,28728]

9.44638012675872e-8*x**3 - 0.00779046653575668*x**2 + 215.766245742412*x - 1976066.80552371

x = [28728,29904]

-2.3467254604501e-7*x**3 + 0.0205758204210322*x**2 - 599.140445952218*x + 5827479.67414407

x = [29904,31080]

2.64592047745948e-8*x**3 - 0.00285083120849619*x**2 + 101.410144377198*x - 1155608.61025955

x = [31080,32256]

2.87470262254576e-7*x**3 - 0.0271875022079296*x**2 + 857.793879039588*x - 8991744.10136192

x = [32256,33432]

-2.70647732441722e-7*x**3 + 0.0268204599028417*x**2 - 884.286946805451*x + 9739108.93812395

x = [33432,34608]

4.56032313092676e-8*x**3 - 0.00489824675752752*x**2 + 176.132854264013*x - 2078209.32499416

x = [34608,35784]

1.90301988836895e-7*x**3 - 0.0199214505590759*x**2 + 696.055891428*x - 8076041.48171792

x = [35784,36960]

-2.54049763238853e-7*x**3 + 0.0277805987297598*x**2 - 1010.9142403237*x + 12284698.2498163

x = [36960,38136]

-1.21605778377969e-8*x**3 + 0.000959925852490683*x**2 - 19.622170779831*x + 71979.9530358954

x = [38136,39312]

3.91232280343313e-7*x**3 - 0.0451914442662937*x**2 + 1740.40648007013*x - 22301504.2565688

x = [39312,40488]

-4.28184957960912e-7*x**3 + 0.0514473471503534*x**2 - 2058.6576881011*x + 27481432.603147

x = [40488,41664]

2.7501150849986e-7*x**3 - 0.0339657084518379*x**2 + 1399.54610712042*x - 19190485.8171627

x = [41664,42840]

-2.37153260291564e-7*x**3 + 0.0300507903289398*x**2 - 1267.6372980819*x + 17851357.3142872

x = [42840,44016]

1.46664335926436e-7*x**3 - 0.0192774471369976*x**2 + 845.584394958856*x - 12325448.4623348

x = [44016,45192]

3.53998665965695e-8*x**3 - 0.00458519649092734*x**2 + 198.890290521428*x - 2837152.56202888

x = [45192,46368]

-1.00730727626965e-7*x**3 + 0.0138708449515226*x**2 - 635.17513434577*x + 9727208.99817059

x = [46368,47544]

4.16458977360552e-8*x**3 - 0.00593431314297499*x**2 + 283.150436179895*x - 4466431.01987408

x = [47544,48720]

1.70254352024803e-7*x**3 - 0.0242779941950876*x**2 + 1155.28240812154*x - 18287978.5112052

x = [48720,49896]

-4.81590995065221e-8*x**3 + 0.0076453158807308*x**2 - 400.021258772336*x + 6970153.03915127

x = [49896,51072]

-2.42623708718577e-7*x**3 + 0.0367543343044648*x**2 - 1852.44484204297*x + 31126862.0761084

x = [51072,52248]

1.55386928286429e-7*x**3 - 0.024227263454894*x**2 + 1262.00731872301*x - 21893571.5087715

x = [52248,53424]

-1.38512751305407e-7*x**3 + 0.0218397479230486*x**2 - 1144.90189175174*x + 20025159.3008566

x = [53424,54600]

3.80218200736599e-7*x**3 - 0.0612982992226278*x**2 + 3296.66513895888*x - 59070266.382038

x = [54600,55776]

-5.28930846185844e-7*x**3 + 0.0876203146632684*x**2 - 4834.29117921106*x + 88913138.6086548

x = [55776,56952]

3.42841531012607e-7*x**3 - 0.0582516136685941*x**2 + 3301.8614954269*x - 62354211.9182142

x = [56952,58128]

-2.1593787026962e-8*x**3 + 0.00401434703037459*x**2 - 244.309498300758*x + 4966298.22671176

x = [58128,59304]

-1.03365610456394e-7*x**3 + 0.0182740446872926*x**2 - 1073.19720370209*x + 21026826.4065679

x = [59304,60480]

5.2673134251961e-9*x**3 - 0.00105305606632879*x**2 + 72.9771793906743*x - 1630748.7984098

x = [60480,61656]

-2.77398229117057e-7*x**3 + 0.0502337799725376*x**2 - 3028.85066423997*x + 60902100.5291839

x = [61656,64008]

3.80009133123496e-7*x**3 - 0.071365545006373*x**2 + 4468.47731665975*x - 93182984.134267

x = [64008,65184]

-5.70123185262275e-7*x**3 + 0.111082663299336*x**2 - 7209.66760057209*x + 155981915.819791

x = [65184,66360]

1.27228440554932e-7*x**3 - 0.0252858418324702*x**2 + 1679.37703793958*x - 37159246.0857901

x = [66360,67536]

8.02701617810969e-8*x**3 - 0.0159373876941751*x**2 + 1059.01362132232*x - 23436807.3102162

x = [67536,68712]

-2.57086837753851e-7*x**3 + 0.0524138392676016*x**2 - 3557.15484276823*x + 80482377.1533902

x = [68712,69888]

3.59038875959067e-7*x**3 - 0.0745918508543245*x**2 + 5169.66013688955*x - 119396593.140692

x = [69888,71064]

-5.29158961351806e-7*x**3 + 0.111631260507622*x**2 - 7845.10066997419*x + 183795274.616006

x = [71064,72240]

3.44027990095575e-7*x**3 - 0.0745252120453476*x**2 + 5383.92289553007*x - 129573835.603659

x = [72240,73416]

-1.02969325687032e-7*x**3 + 0.0223480462310591*x**2 - 1614.20128235755*x + 38940994.5998751

x = [73416,74592]

2.35792097759188e-8*x**3 - 0.00552401560758498*x**2 + 432.054009588342*x - 11134964.9046248

x = [74592,75768]

1.1440884345532e-7*x**3 - 0.0258495077138267*x**2 + 1948.17311677713*x - 48831750.3857668

x = [75768,76944]

-9.99998088261691e-8*x**3 + 0.0228864365843649*x**2 - 1744.45191080826*x + 44429187.3109298

x = [76944,78120]

1.26340994001458e-7*x**3 - 0.0293602636139418*x**2 + 2275.61818925025*x - 58677570.615371

x = [78120,79296]

-7.94870210044255e-8*x**3 + 0.018877589982837*x**2 - 1492.7229337301*x + 39450032.2270375

x = [79296,80472]

-2.30022449177621e-10*x**3 + 2.33011105261662e-5*x**2 + 2.3467566886541*x - 67649.8301111026

x = [80472,81648]

-6.16261359280709e-8*x**3 + 0.0148453052421467*x**2 - 1190.40955979111*x + 31926845.6031421

x = [81648,82824]

2.87315493798378e-7*x**3 - 0.0706258533095685*x**2 + 5788.13959363933*x - 158001348.156621

x = [82824,84000]

-6.64610411777585e-7*x**3 + 0.165901080300702*x**2 - 13801.9671556977*x + 382842318.979077

x = [84000,85176]

1.03318526637364e-6*x**3 - 0.261943430593405*x**2 + 22136.9717594073*x - 623447970.643864

x = [85176,86352]

-1.02282233232278e-6*x**3 + 0.263424079086291*x**2 - 22611.7312450705*x + 647057205.059271

x = [86352,87528]

5.29789298629602e-7*x**3 - 0.138789279581708*x**2 + 12120.1967026286*x - 352666608.9873

x = [87528,88704]

-1.54365450987214e-7*x**3 + 0.0408588111916739*x**2 - 3604.04138658404*x + 106103761.503567

x = [88704,89880]

5.50847907017301e-8*x**3 - 0.0148784115246544*x**2 + 1340.07321724515*x - 40083819.1024548

x = [89880,91056]

-2.60076467227433e-8*x**3 + 0.0069873533024806*x**2 - 625.221725417743*x + 18796417.3797255

x = [91056,92232]

3.04999199906449e-8*x**3 - 0.00844870568148222*x**2 + 780.324061425976*x - 23864708.3425551

x = [92232,93408]

1.15624807278l3e-9*x**3 - 0.000329429036497037*x**2 + 31.466937905702*x - 841844.937047763

x = [93408,94584]

2.69762042535108e-8*x**3 - 0.0075648004372857 8*x**2 + 707.308509710577*x - 21884848.1167644

x = [94584,95760]

-2.5439759653179e-8*x**3 + 0.00730833415316525*x**2 - 699.452052392643*x + 22467498.885226

Grafica de los contagios por semanas, por el tiempo

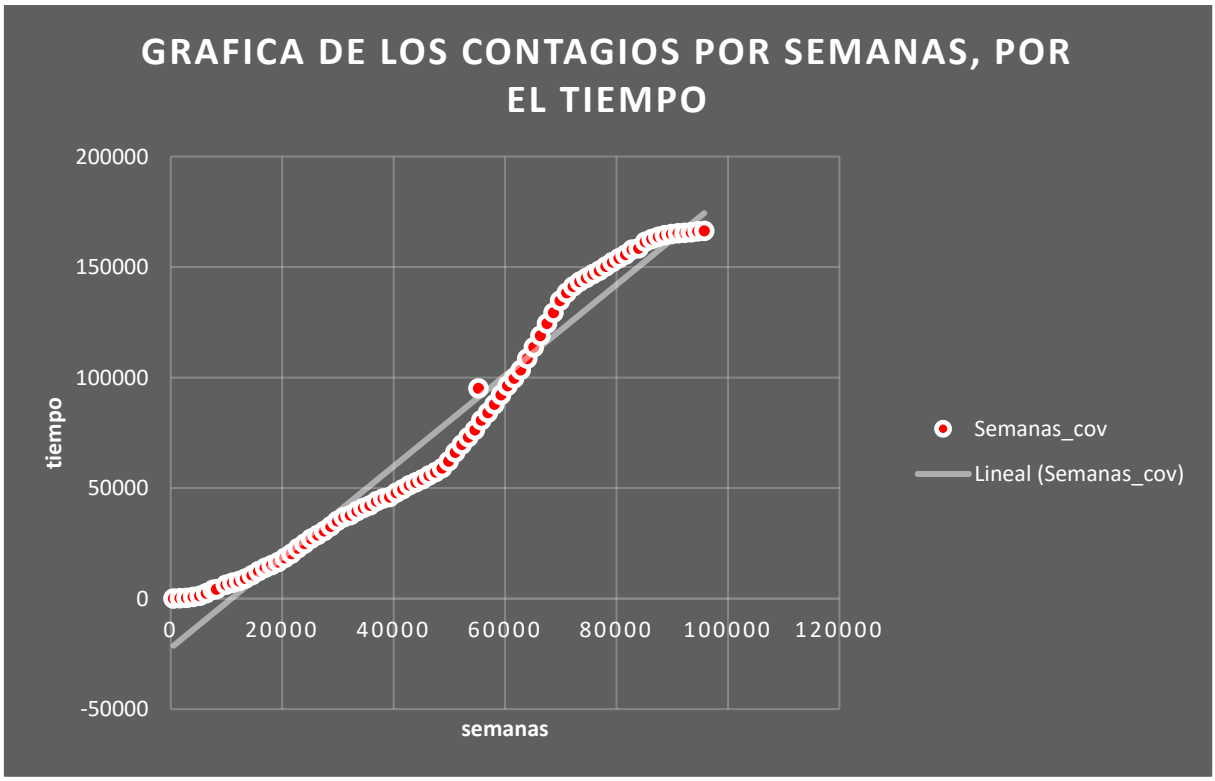


Ilustración 1Contagios de Covid-19 por semanas

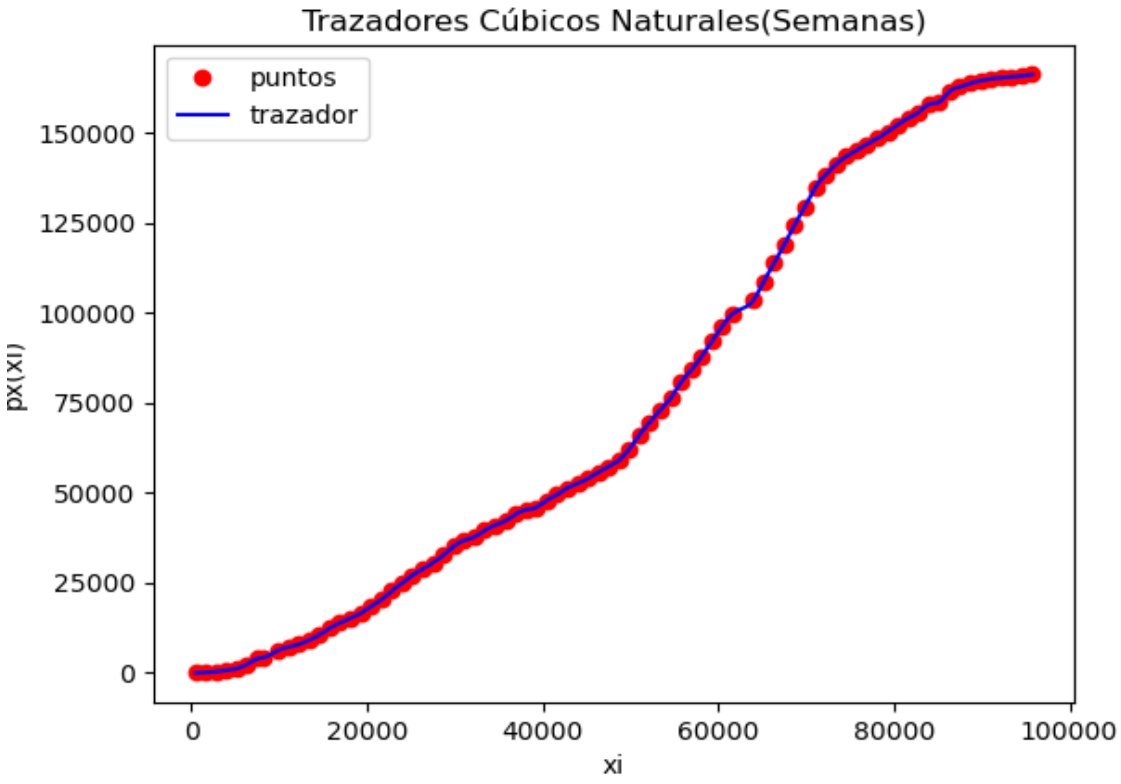


Ilustración 2Contagios COVID-PYTHON

Tabla de Datos de contagios por meses en la Provincia del Oro

MESES

Tiempo = t
Contagios por meses = m

Tiempo	m
2880	206
19824	5734
42120	25507
63720	47553
88536	78783
111600	118934
129960	151245
156984	186103
173880	205785
202368	242587
225432	289941
223440	322596
269328	429574
282600	501830
314712	609658
326520	631549
360096	687612
383160	719121
392760	708585
232152	403896

Tabla 3 Contagios de Covid-19 por meses

Resolución por meses

$$s_0(x) = a_0 + b_0(x-2880) + c_0(x-2880)^2 + d_0(x-2880)^3 + e_0(x-2880)^4 + f_0(x-2880)^5 + g_0(x-2880)^6 + h_0(x-2880)^7 + i_0(x-2880)^8 + j_0(x-2880)^9 + k_0(x-2880)^{10} + l_0(x-2880)^{11} + m_0(x-2880)^{12} + n_0(x-2880)^{13} + \tilde{n}_0(x-2880)^{14} + o_0(x-2880)^{15} + p_0(x-2880)^{16} + q_0(x-2880)^{17} + r_0(x-2880)^{18} + s_0(x-2880)^{19} + t_0(x-2880)^{20}$$

$$s_1(x) = a_1 + b_1(x-19824) + c_1(x-19824)^2 + d_1(x-19824)^3 + e_1(x-19824)^4 + f_1(x-19824)^5 + g_1(x-19824)^6 + h_1(x-19824)^7 + i_1(x-19824)^8 + j_1(x-19824)^9 + k_1(x-19824)^{10} + l_1(x-19824)^{11} + m_1(x-19824)^{12} + n_1(x-19824)^{13} + \tilde{n}_1(x-19824)^{14} + o_1(x-19824)^{15} + p_1(x-19824)^{16} + q_1(x-19824)^{17} + r_1(x-19824)^{18} + s_1(x-19824)^{19} + t_1(x-19824)^{20}$$

$$s_2(x) = a_2 + b_2(x-42120) + c_2(x-42120)^2 + d_2(x-42120)^3 + e_2(x-42120)^4 + f_2(x-42120)^5 + g_2(x-42120)^6 + h_2(x-42120)^7 + i_2(x-42120)^8 + j_2(x-42120)^9 + k_2(x-42120)^{10} + l_2(x-42120)^{11} + m_2(x-42120)^{12} + n_2(x-42120)^{13} + \tilde{n}_2(x-42120)^{14} + o_2(x-42120)^{15} + p_2(x-42120)^{16} + q_2(x-42120)^{17} + r_2(x-42120)^{18} + s_2(x-42120)^{19} + t_2(x-42120)^{20}$$

$$s_3(x) = a_3 + b_3(x-63720) + c_3(x-63720)^2 + d_3(x-63720)^3 + e_3(x-63720)^4 + f_3(x-63720)^5 + g_3(x-63720)^6 + h_3(x-63720)^7 + i_3(x-63720)^8 + j_3(x-63720)^9 + k_3(x-63720)^{10} + l_3(x-63720)^{11} + m_3(x-63720)^{12} + n_3(x-63720)^{13} + \tilde{n}_3(x-63720)^{14} + o_3(x-63720)^{15} + p_3(x-63720)^{16} + q_3(x-63720)^{17} + r_3(x-63720)^{18} + s_3(x-63720)^{19} + t_3(x-63720)^{20}$$

$$s_4(x) = a_4 + b_4(x-88536) + c_4(x-88536)^2 + d_4(x-88536)^3 + e_4(x-88536)^4 + f_4(x-88536)^5 + g_4(x-88536)^6 + h_4(x-88536)^7 + i_4(x-88536)^8 + j_4(x-88536)^9 + k_4(x-88536)^{10} + l_4(x-88536)^{11} + m_4(x-88536)^{12} + n_4(x-88536)^{13} + \tilde{n}_4(x-88536)^{14} + o_4(x-88536)^{15} + p_4(x-88536)^{16} + q_4(x-88536)^{17} + r_4(x-88536)^{18} + s_4(x-88536)^{19} + t_4(x-88536)^{20}$$

$$s_5(x) = a_5 + b_5(x-111600) + c_5(x-111600)^2 + d_5(x-111600)^3 + e_5(x-111600)^4 + f_5(x-111600)^5 + g_5(x-111600)^6 + h_5(x-111600)^7 + i_5(x-111600)^8 + j_5(x-111600)^9 + k_5(x-111600)^{10} + l_5(x-111600)^{11} + m_5(x-111600)^{12} + n_5(x-111600)^{13} + \tilde{n}_5(x-111600)^{14} + o_5(x-111600)^{15} + p_5(x-111600)^{16} + q_5(x-111600)^{17} + r_5(x-111600)^{18} + s_5(x-111600)^{19} + t_5(x-111600)^{20}$$

$$s_6(x) = a_6 + b_6(x-129960) + c_6(x-129960)^2 + d_6(x-129960)^3 + e_6(x-129960)^4 + f_6(x-129960)^5 + g_6(x-129960)^6 + h_6(x-129960)^7 + i_6(x-129960)^8 + j_6(x-129960)^9 + k_6(x-129960)^{10} + l_6(x-129960)^{11} + m_6(x-129960)^{12} + n_6(x-129960)^{13} + \tilde{n}_6(x-129960)^{14} + o_6(x-129960)^{15} + p_6(x-129960)^{16} + q_6(x-129960)^{17} + r_6(x-129960)^{18} + s_6(x-129960)^{19} + t_6(x-129960)^{20}$$

$$s_7(x) = a_7 + b_7(x-156984) + c_7(x-156984)^2 + d_7(x-156984)^3 + e_7(x-156984)^4 + f_7(x-156984)^5 + g_7(x-156984)^6 + h_7(x-156984)^7 + i_7(x-156984)^8 + j_7(x-156984)^9 + k_7(x-156984)^{10} + l_7(x-156984)^{11} + m_7(x-156984)^{12} + n_7(x-156984)^{13} + \tilde{n}_7(x-156984)^{14} + o_7(x-156984)^{15} + p_7(x-156984)^{16} + q_7(x-156984)^{17} + r_7(x-156984)^{18} + s_7(x-156984)^{19} + t_7(x-156984)^{20}$$

$$s_8(x) = a_8 + b_8(x - 173880) + c_8(x - 173880)^2 + d_8(x - 173880)^3 + e_8(x - 173880)^4 + f_8(x - 173880)^5 + g_8(x - 173880)^6 + h_8(x - 173880)^7 + i_8(x - 173880)^8 + j_8(x - 173880)^9 + k_8(x - 173880)^{10} + l_8(x - 173880)^{11} + m_8(x - 173880)^{12} + n_8(x - 173880)^{13} + \tilde{n}_8(x - 173880)^{14} + o_8(x - 173880)^{15} + p_8(x - 173880)^{16} + q_8(x - 173880)^{17} + r_8(x - 173880)^{18} + s_8(x - 173880)^{19} + t_8(x - 173880)^{20}$$

$$s_9(x) = a_9 + b_9(x - 202368) + c_9(x - 202368)^2 + d_9(x - 202368)^3 + e_9(x - 202368)^4 + f_9(x - 202368)^5 + g_9(x - 202368)^6 + h_9(x - 202368)^7 + i_9(x - 202368)^8 + j_9(x - 202368)^9 + k_9(x - 202368)^{10} + l_9(x - 202368)^{11} + m_9(x - 202368)^{12} + n_9(x - 202368)^{13} + \tilde{n}_9(x - 202368)^{14} + o_9(x - 202368)^{15} + p_9(x - 202368)^{16} + q_9(x - 202368)^{17} + r_9(x - 202368)^{18} + s_9(x - 202368)^{19} + t_9(x - 202368)^{20}$$

$$s_{10}(x) = a_{10} + b_{10}(x - 225432) + c_{10}(x - 225432)^2 + d_{10}(x - 225432)^3 + e_{10}(x - 225432)^4 + f_{10}(x - 225432)^5 + g_{10}(x - 225432)^6 + h_{10}(x - 225432)^7 + i_{10}(x - 225432)^8 + j_{10}(x - 225432)^9 + k_{10}(x - 225432)^{10} + l_{10}(x - 225432)^{11} + m_{10}(x - 225432)^{12} + n_{10}(x - 225432)^{13} + \tilde{n}_{10}(x - 225432)^{14} + o_{10}(x - 225432)^{15} + p_{10}(x - 225432)^{16} + q_{10}(x - 225432)^{17} + r_{10}(x - 225432)^{18} + s_{10}(x - 225432)^{19} + t_{10}(x - 225432)^{20}$$

$$s_{11}(x) = a_{11} + b_{11}(x - 223440) + c_{11}(x - 223440)^2 + d_{11}(x - 223440)^3 + e_{11}(x - 223440)^4 + f_{11}(x - 223440)^5 + g_{11}(x - 223440)^6 + h_{11}(x - 223440)^7 + i_{11}(x - 223440)^8 + j_{11}(x - 223440)^9 + k_{11}(x - 223440)^{10} + l_{11}(x - 223440)^{11} + m_{11}(x - 223440)^{12} + n_{11}(x - 223440)^{13} + \tilde{n}_{11}(x - 223440)^{14} + o_{11}(x - 223440)^{15} + p_{11}(x - 223440)^{16} + q_{11}(x - 223440)^{17} + r_{11}(x - 223440)^{18} + s_{11}(x - 223440)^{19} + t_{11}(x - 223440)^{20}$$

$$s_{12}(x) = a_{12} + b_{12}(x - 269328) + c_{12}(x - 269328)^2 + d_{12}(x - 269328)^3 + e_{12}(x - 269328)^4 + f_{12}(x - 269328)^5 + g_{12}(x - 269328)^6 + h_{12}(x - 269328)^7 + i_{12}(x - 269328)^8 + j_{12}(x - 269328)^9 + k_{12}(x - 269328)^{10} + l_{12}(x - 269328)^{11} + m_{12}(x - 269328)^{12} + n_{12}(x - 269328)^{13} + \tilde{n}_{12}(x - 269328)^{14} + o_{12}(x - 269328)^{15} + p_{12}(x - 269328)^{16} + q_{12}(x - 269328)^{17} + r_{12}(x - 269328)^{18} + s_{12}(x - 269328)^{19} + t_{12}(x - 269328)^{20}$$

$$s_{13}(x) = a_{13} + b_{13}(x - 282600) + c_{13}(x - 282600)^2 + d_{13}(x - 282600)^3 + e_{13}(x - 282600)^4 + f_{13}(x - 282600)^5 + g_{13}(x - 282600)^6 + h_{13}(x - 282600)^7 + i_{13}(x - 282600)^8 + j_{13}(x - 282600)^9 + k_{13}(x - 282600)^{10} + l_{13}(x - 282600)^{11} + m_{13}(x - 282600)^{12} + n_{13}(x - 282600)^{13} + \tilde{n}_{13}(x - 282600)^{14} + o_{13}(x - 282600)^{15} + p_{13}(x - 282600)^{16} + q_{13}(x - 282600)^{17} + r_{13}(x - 282600)^{18} + s_{13}(x - 282600)^{19} + t_{13}(x - 282600)^{20}$$

$$s_{14}(x) = a_{14} + b_{14}(x - 314712) + c_{14}(x - 314712)^2 + d_{14}(x - 314712)^3 + e_{14}(x - 314712)^4 + f_{14}(x - 314712)^5 + g_{14}(x - 314712)^6 + h_{14}(x - 314712)^7 + i_{14}(x - 314712)^8 + j_{14}(x - 314712)^9 + k_{14}(x - 314712)^{10} + l_{14}(x - 314712)^{11} + m_{14}(x - 314712)^{12} + n_{14}(x - 314712)^{13} + \tilde{n}_{14}(x - 314712)^{14} + o_{14}(x - 314712)^{15} + p_{14}(x - 314712)^{16} + q_{14}(x - 314712)^{17} + r_{14}(x - 314712)^{18} + s_{14}(x - 314712)^{19} + t_{14}(x - 314712)^{20}$$

$$s_{16}(x) = a_{16} + b_{16}(x - 326520) + c_{16}(x - 326520)^2 + d_{16}(x - 326520)^3 + e_{16}(x - 326520)^4 + f_{16}(x - 326520)^5 + g_{16}(x - 326520)^6 + h_{16}(x - 326520)^7 + i_{16}(x - 326520)^8 + j_{16}(x - 326520)^9 + k_{16}(x - 326520)^{10} + l_{16}(x - 326520)^{11} + m_{16}(x - 326520)^{12} + n_{16}(x - 326520)^{13} + \tilde{n}_{16}(x - 326520)^{14} + o_{16}(x - 326520)^{16} + p_{16}(x - 326520)^{16} + q_{16}(x - 326520)^{17} + r_{16}(x - 326520)^{18} + s_{16}(x - 326520)^{19} + t_{16}(x - 326520)^{20}$$

$$s_{17}(x) = a_{17} + b_{17}(x - 360096) + c_{17}(x - 360096)^2 + d_{17}(x - 360096)^3 + e_{17}(x - 360096)^4 + f_{17}(x - 360096)^5 + g_{17}(x - 360096)^6 + h_{17}(x - 360096)^7 + i_{17}(x - 360096)^8 + j_{17}(x - 360096)^9 + k_{17}(x - 360096)^{10} + l_{17}(x - 360096)^{11} + m_{17}(x - 360096)^{12} + n_{17}(x - 360096)^{13} + \tilde{n}_{17}(x - 360096)^{14} + o_{17}(x - 360096)^{15} + p_{17}(x - 360096)^{16} + q_{17}(x - 360096)^{17} + r_{17}(x - 360096)^{18} + s_{17}(x - 360096)^{19} + t_{17}(x - 360096)^{20}$$

$$s_{18}(x) = a_{18} + b_{18}(x - 383160) + c_{18}(x - 383160)^2 + d_{18}(x - 383160)^3 + e_{18}(x - 383160)^4 + f_{18}(x - 383160)^5 + g_{18}(x - 383160)^6 + h_{18}(x - 383160)^7 + i_{18}(x - 383160)^8 + j_{18}(x - 383160)^9 + k_{18}(x - 383160)^{10} + l_{18}(x - 383160)^{11} + m_{18}(x - 383160)^{12} + n_{18}(x - 383160)^{13} + \tilde{n}_{18}(x - 383160)^{14} + o_{18}(x - 383160)^{15} + p_{18}(x - 383160)^{16} + q_{18}(x - 383160)^{17} + r_{18}(x - 383160)^{18} + s_{18}(x - 383160)^{19} + t_{18}(x - 383160)^{20}$$

$$s_{19}(x) = a_{19} + b_{19}(x - 392760) + c_{19}(x - 392760)^2 + d_{19}(x - 392760)^3 + e_{19}(x - 392760)^4 + f_{19}(x - 392760)^5 + g_{19}(x - 392760)^6 + h_{19}(x - 392760)^7 + i_{19}(x - 392760)^8 + j_{19}(x - 392760)^9 + k_{19}(x - 392760)^{10} + l_{19}(x - 392760)^{11} + m_{19}(x - 392760)^{12} + n_{19}(x - 392760)^{13} + \tilde{n}_{19}(x - 392760)^{14} + o_{19}(x - 392760)^{15} + p_{19}(x - 392760)^{16} + q_{19}(x - 392760)^{17} + r_{19}(x - 392760)^{18} + s_{19}(x - 392760)^{19} + t_{19}(x - 392760)^{20}$$

$$s_{20}(x) = a_{20} + b_{20}(x - 232152) + c_{20}(x - 232152)^2 + d_{20}(x - 232152)^3 + e_{20}(x - 232152)^4 + f_{20}(x - 232152)^5 + g_{20}(x - 232152)^6 + h_{20}(x - 232152)^7 + i_{20}(x - 232152)^8 + j_{20}(x - 232152)^9 + k_{20}(x - 232152)^{10} + l_{20}(x - 232152)^{11} + m_{20}(x - 232152)^{12} + n_{20}(x - 232152)^{13} + \tilde{n}_{20}(x - 232152)^{14} + o_{20}(x - 232152)^{15} + p_{20}(x - 232152)^{16} + q_{20}(x - 232152)^{17} + r_{20}(x - 232152)^{18} + s_{20}(x - 232152)^{19} + t_{20}(x - 232152)^{20}$$

Polinomio (meses)

x = [2880,19824]

4.33649097739449e-10*x**3 - 3.74672820446884e-6*x**2 + 0.212541476299524*x - 385.401543463198

x = [19824,42120]

-3.61865164900774e-10*x**3 + 4.35640960232705e-5*x**2 - 0.725348303191181*x + 5812.17411941138

x = [42120,63720]

1.04568570750194e-10*x**3 - 1.53744708135858e-5*x**2 + 1.75714413197721*x - 29042.0196703528

x = [63720,88536]

1.17561636899335e-10*x**3 - 1.78582253386555e-5*x**2 + 1.91540897031465*x - 32403.5648366401

x = [88536,111600]

-1.60219346482208e-10*x**3 + 5.59226260953494e-5*x**2 - 4.61685249224641*x + 160376.535446462

x = [111600,129960]

-4.76779766397658e-10*x**3 + 0.00016190705468304 2*x**2 - 16.4447147226329*x + 600373.010416839

x = [129960,156984]

6.26616202016801e-10*x**3 - 0.000268284965482387*x**2 + 39.4630402180663*x - 1821550.93361425

x = [156984,173880]

-2.96127796910057e-9*x**3 + 0.00142144097019368*x**2 - 225.796896068106*x + 12058971.0123686

x = [173880,202368]

6.00878130817055e-9*x**3 - 0.00325770075120203*x**2 + 587.81226644818*x - 35097816.0470754

x = [202368,225432]

-2.72217497098958e-8*x**3 + 0.0169166875519901*x**2 - 3494.83834569221*x + 240301463.645467

x = [225432,223440]

-3.68073780373173e-7*x**3 + 0.247433552481442*x**2 - 55460.7162404683*x + 4145225392.17052

x = [223440,269328]

-6.5258362597843e-9*x**3 + 0.00508073458335513*x**2 - 1309.40260931987*x + 112035552.922586

x = [269328,282600]

4.15757832412053e-9*x**3 - 0.00355129346580663*x**2 + 1015.44424110477*x - 96679897.9211359

x = [282600,314712]

-1.46841000691888e-10*x**3 + 9.79932377693347e-5*x**2 - 15.8441813258023*x + 467471.471823591

x = [314712,326520]

9.30460429401863e-10*x**3 - 0.000919125825233658*x**2 + 304.255393229996*x - 33112254.2973778

x = [326520,360096]

2.61042557976873e-10*x**3 - 0.000263390855100595*x**2 + 90.1448107821479*x - 9808458.50375408

x = [360096,383160]

-1.99903006965895e-9*x**3 + 0.00217813848366285*x**2 - 789.040137989214*x + 95721869.26717

Grafica de los contagios por Meses, por el tiempo

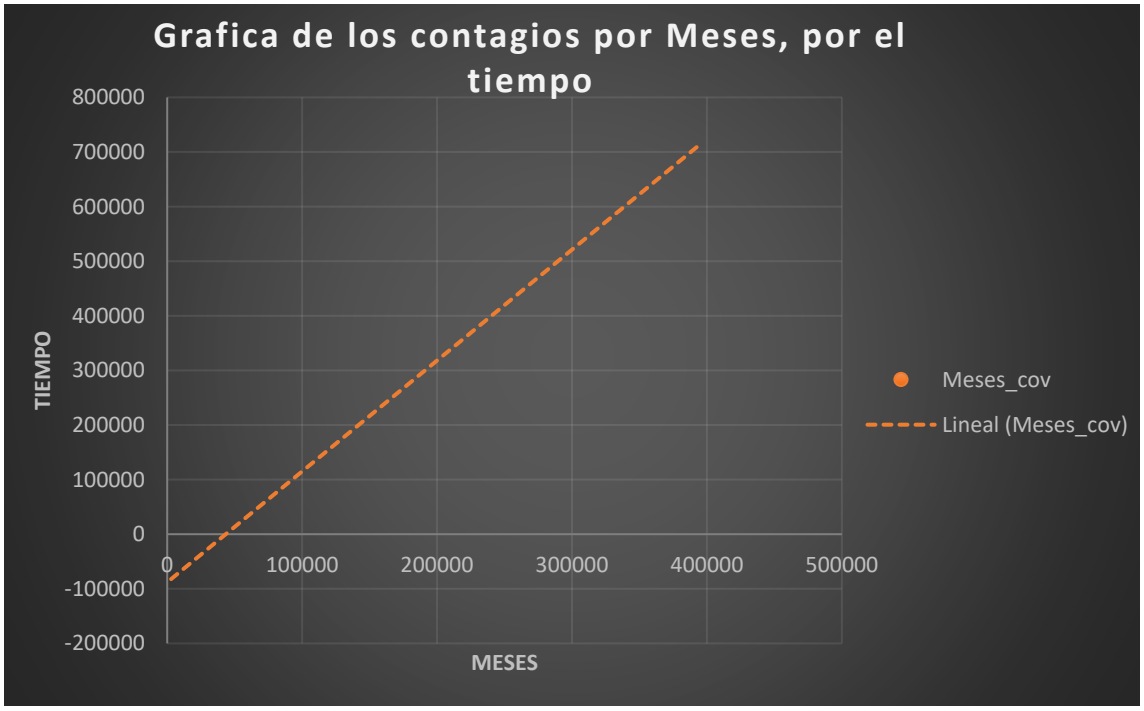


Ilustración 3 Contagios de Covid-19 por meses

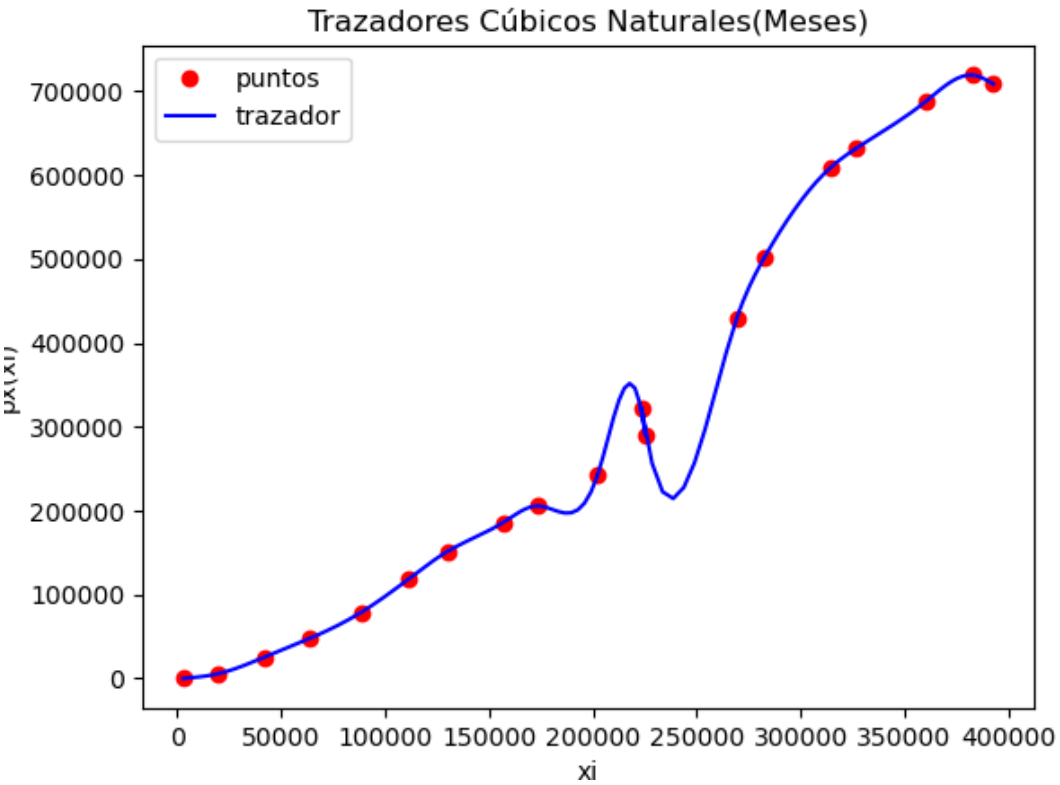


Ilustración 1Contagios COVID-PYTHON

Análisis

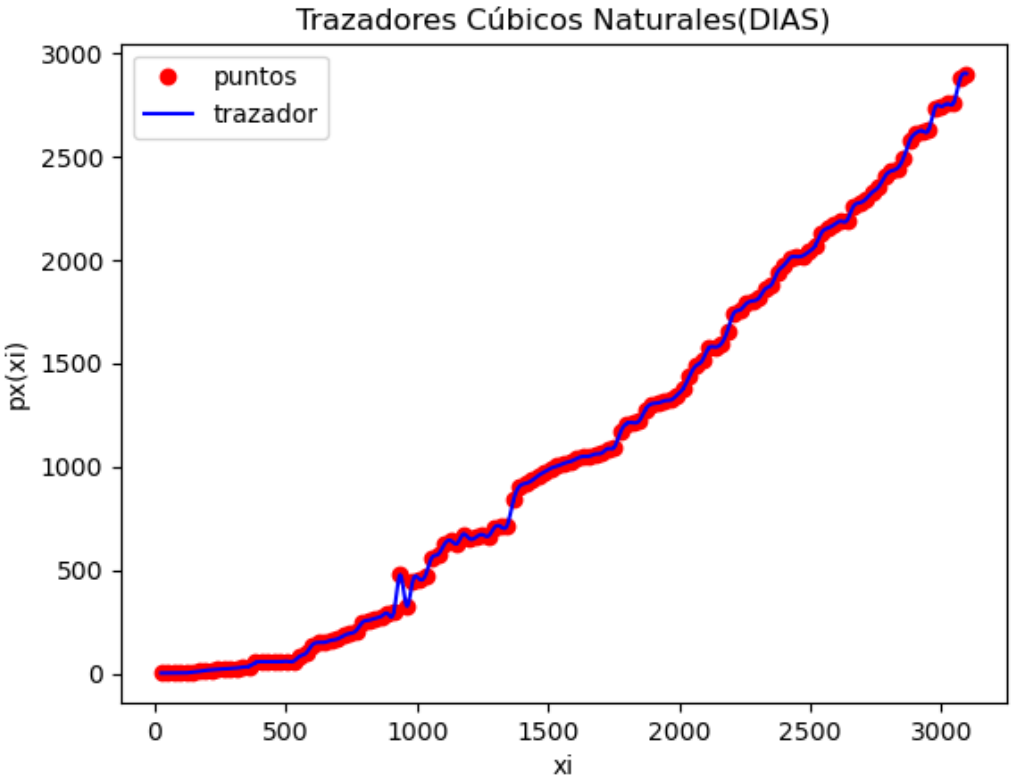


Ilustración 3 Contagios por COVID-19

La interpolación por el método de Trazadores cúbicos se observa una variación considerable entre ambas gráficas, esto se debe al muestreo de datos que se utilizó para la interpolación, esta grafica que se obtuvo mediante procedimientos y cálculos por código escrito en Python brinda también un valor aproximado de contagios acumulados de COVID 19. Es necesario enfatizar también que en ambas graficas el número de contagios acumulados va en crecimiento a medida que el tiempo aumenta eso quiere decir que la interpolación fue realizada de manera correcta.

Conclusiones

El objetivo de este Proyecto Fin de Unidad era generar curvas en el espacio con trayectorias suaves y que no contengan giros bruscos para poder aplicarlas posteriormente en el número de casas de COVID en El Oro. Este tipo de curvas se pueden obtener a través de la definición de los splines cúbicos interpolantes o suavizantes. A través del lenguaje de programación Python nos permite obtener las gráficas buscadas. con la interfaz tenemos la posibilidad de realizar cambios y adecuarlos según nuestras necesidades. Tras la realización del proyecto he adquirido conocimientos como el cálculo de curvas a través de los splines cúbicos interpolantes y suavizantes.