

### Gradient Descent (p=5)

Iteration Number	Gradient Norm	Function Value
0	2797.2461880005344	3975.7081832991157
1	573.8654949362551	523.8810085212804
2	209.75512984760002	152.49929886461447
3	112.25885095256761	72.22548258752673
4	66.20163768882858	35.674936661217785
5	27.63132720644318	20.6796323436583
6	23.847228787627206	13.865522815462384
7	12.536042972608914	10.494713664563376
8	9.357037431439641	8.923561367790375
9	4.5663658593071	8.179678314434067
10	3.9551426623889645	7.954191489661324
11	1.5708204239381278	7.812895134195343
12	1.31856243177595	7.784374537911032
13	0.5216593516873984	7.767378744396812
14	0.4161873119029447	7.7635045599733
15	0.257803879377294	7.761837374091349
16	0.1598680579434653	7.761179069859618
17	0.09966442762012276	7.760918011800768
18	0.06243328000974904	7.760812155883202
19	0.039402922964885505	7.760768440782698
20	0.025086989719048113	7.760749909074177
21	0.02194980016200586	7.7607428359898245
22	0.01384791915900659	7.760738477308732
23	0.008816886904342385	7.760736582761471
24	0.005675763733405506	7.7607357342401855
25	0.0037011723472191015	7.7607353428885535
26	0.00324644964232779	7.76073517334239
27	0.0020817663374463062	7.760735068944664
28	0.001351483194817036	7.760735020710833
29	0.0012144520181874322	7.760735000974398
30	0.0007750430708589154	7.760734987324004
31	0.000500367620960676	7.760734981075489
32	0.00032736153119606795	7.76073497813209
33	0.0002903010133733095	7.7607349768515155
34	0.00018637822818233147	7.7607349760257165
35	0.0001211684194116532	7.760734975641361
36	0.00010909800698575286	7.760734975483276
37	6.967703953919038e-05	7.760734975372981