3.3. Для таблично заданной функции путем решения нормальной системы МНК найти приближающие многочлены а) 1-ой и б) 2-ой степени. Для каждого из приближающих многочленов вычислить сумму квадратов ошибок. Построить графики приближаемой функции и приближающих многочленов.

1.

i	0	1	2	3	4	5
x_i	-1.0	0.0	1.0	2.0	3.0	4.0
y_i	-0.5	0.0	0.5	0.86603	1.0	0.86603

2.

i	0	1	2	3	4	5
x_i	-1.0	0.0	1.0	2.0	3.0	4.0
y_i	0.86603	1.0	0.86603	0.50	0.0	-0.50

3.

i	0	1	2	3	4	5
x_i	-0.9	0.0	0.9	1.8	2.7	3.6
y_i	-0.36892	0.0	0.36892	0.85408	1.7856	6.3138

4.

i	0	1	2	3	4	5
x_i	1.0	1.9	2.8	3.7	4.6	5.5
y_i	2.4142	1.0818	0.50953	0.11836	-0.24008	-0.66818

5.

i	0	1	2	3	4	5
x_i	0.1	0.5	0.9	1.3	1.7	2.1
y_i	-2.3026	-0.69315	-0.10536	0.26236	0.53063	0.74194

6.

i	0	1	2	3	4	5
x_i	-3.0	-2.0	-1.0	0.0	1.0	2.0
y_i	0.04979	0.13534	0.36788	1.0	2.7183	7.3891

7.

i	0	1	2	3	4	5
x_i	0.0	0.2	0.4	0.6	0.8	1.0
y_i	1.0	1.0032	1.0512	1.2592	1.8192	3.0

8.

i	0	1	2	3	4	5
x_i	-0.7	-0.4	-0.1	0.2	0.5	0.8
y_i	-0.7754	-0.41152	-0.10017	0.20136	0.5236	0.9273

9.

i	0	1	2	3	4	5
x_i	-0.7	-0.4	-0.1	0.2	0.5	0.8
y_i	2.3462	1.9823	1.671	1.3694	1.0472	0.6435

10.

i	0	1	2	3	4	5
x_i	-5.0	-3.0	-1.0	1.0	3.0	5.0
y_i	-1.3734	-1.249	-0.7854	0.7854	1.249	1.3734

11.

i	0	1	2	3	4	5
x_i	-5.0	-3.0	-1.0	1.0	3.0	5.0
y_i	2.9442	2.8198	2.3562	0.7854	0.32175	0.1974

12.

i	0	1	2	3	4	5
x_i	-1.0	0.0	1.0	2.0	3.0	4.0
y_i	-1.8415	0.0	1.8415	2.9093	3.1411	3.2432

13.

i	0	1	2	3	4	5
x_i	-1.0	0.0	1.0	2.0	3.0	4.0
y_i	-0.4597	1.0	1.5403	1.5839	2.010	3.3464

14.

i	0	1	2	3	4	5
x_i	-0.9	0.0	0.9	1.8	2.7	3.6
y_i	-1.2689	0.0	1.2689	2.6541	4.4856	9.9138

15.

i	0	1	2	3	4	5
x_i	1.0	1.9	2.8	3.7	4.6	5.5
y_i	3.4142	2.9818	3.3095	3.8184	4.3599	4.8318

16.

i	0	1	2	3	4	5
x_i	0.1	0.5	0.9	1.3	1.7	2.1
y_i	-2.2026	-0.19315	0.79464	1.5624	2.2306	2.8419

17.

i	0	1	2	3	4	5
x_i	-3.0	-2.0	-1.0	0.0	1.0	2.0
y_i	-2.9502	-1.8647	-0.63212	1.0	3.7183	9.3891

18.

i	0	1	2	3	4	5
x_i	0.0	1.7	3.4	5.1	6.8	8.5
y_i	0.0	3.0038	5.2439	7.3583	9.4077	11.415

19.

i	0	1	2	3	4	5
x_i	-0.7	-0.4	-0.1	0.2	0.5	0.8
y_i	-1.4754	-0.81152	-0.20017	0.40136	1.0236	1.7273

20.

i	0	1	2	3	4	5
x_i	-0.7	-0.4	-0.1	0.2	0.5	0.8
y_i	1.6462	1.5823	1.571	1.5694	1.5472	1.4435

21.

i	0	1	2	3	4	5
x_i	-5.0	-3.0	-1.0	1.0	3.0	5.0
y_i	-6.3734	-4.249	-1.7854	1.7854	4.249	6.3734

22.

i	0	1	2	3	4	5
x_i	-5.0	-3.0	-1.0	1.0	3.0	5.0
y_i	-2.0558	-0.18016	1.3562	1.7854	3.3218	5.1974

23.

i	0	1	2	3	4	5
x_i	0.1	0.5	0.9	1.3	1.7	2.1
y_i	10.	2.0	1.1111	0.76923	0.58824	0.47619

24.

i	0	1	2	3	4	5
x_i	0.1	0.5	0.9	1.3	1.7	2.1
y_i	100.0	4.0	1.2346	0.59172	0.34602	0.22676

25.

i	0	1	2	3	4	5
x_i	0.1	0.5	0.9	1.3	1.7	2.1
y_i	10.1	2.5	2.0111	2.0692	2.2882	2.5762

26.

i	0	1	2	3	4	5
x_i	0.1	0.5	0.9	1.3	1.7	2.1
y_i	100.01	4.250	2.0446	2.2817	3.236	4.6368

27.

i	0	1	2	3	4	5
x_i	-1.0	0.0	1.0	2.0	3.0	5.0
y_i	0.5	0.0	0.5	1.7321	3.0	2.5

28.

i	0	1	2	3	4	5
x_i	-1.0	0.0	1.0	2.0	3.0	5.0
y_i	-0.86603	0.0	0.86603	1.0	0.0	-4.3301

29.

i	0	1	2	3	4	5
x_i	-3.0	-2.0	-1.0	0.0	1.0	2.0
y_i	-0.14936	-0.27067	-0.36788	0.0	2.7183	14.778

30.

i	0	1	2	3	4	5
x_i	-1.7	-1.2	-0.7	-0.2	0.3	0.8
y_i	0.52796	0.43372	0.24333	0.03275	0.12149	1.4243