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.

$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1.							
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		i	_					
2. $\begin{array}{c c c c c c c c c c c c c c c c c c c $		$X_{i}$	-1.0	0.0	1.0	2.0	3.0	4.0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		$y_i$	-0.5	0.0	0.5	0.86603	1.0	0.86603
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	2.							
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		i	0	1	2	3	4	5
3. $ \begin{vmatrix} j_i \\ x_i \end{vmatrix} = 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. \\  \begin{vmatrix} i \\ 0 \\ x_i \end{vmatrix} & 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. \\  \begin{vmatrix} i \\ 0 \\ x_i \end{vmatrix} & 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. \\  \begin{vmatrix} i \\ 0 \\ x_i \end{vmatrix} & 0.0 & 1 & 2 & 3 & 4 & 5 \\ x_i & 0.0 & 0.2 & 0.4 & 0.6 & 0.8 & 1.0 \\ y_i & 0.04979 & 0.13534 & 0.36788 & 1.0 & 2.7183 & 7.3891 \\ \hline 7. \\  \begin{vmatrix} i \\ 0 \\ x_i \end{vmatrix} & 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 \\ \hline 8. \\  \begin{vmatrix} i \\ 0 \\ x_i \end{vmatrix} & 0.07754 & -0.41152 & -0.10017 & 0.20136 & 0.5236 & 0.9273 \\ \hline 9. \\  \begin{vmatrix} i \\ 0 \\ x_i \end{vmatrix} & 0.7754 & -0.41152 & -0.10017 & 0.20136 & 0.5236 & 0.9273 \\ \hline 9. \\  \begin{vmatrix} i \\ 0 \\ x_i \end{vmatrix} & 0.77 & -0.4 & -0.1 & 0.2 & 0.5 & 0.8 \\ y_i & 2.3462 & 1.9823 & 1.671 & 1.3694 & 1.0472 & 0.6435 \\ \hline 1.3734 & -1.3734 & -1.309 & -0.3954 & 0.3854 & 1.349 & 1.3734 \\ \hline 1.3734 & -1.3734 & -1.3249 & -0.3954 & 0.3854 & 1.349 & 1.3734 \\ \hline 1.3734 & -1.3734 & -1.3249 & -0.3954 & 0.3854 & 1.349 & 1.3734 \\ \hline 1.3734 & -1.3734 & -1.3249 & -0.3954 & 0.3854 & 1.349 & 1.3734 \\ \hline 1.3734 & -1.3734 & -1.3249 & -0.3854 & 0.3854 & 1.349 & 1.3734 \\ \hline 1.3734 & -1.3734 & -1.3249 & -0.3854 & 0.3854 & 1.349 & 1.3734 \\ \hline 1.3734 & -1.3734 & -1.3249 & -0.3854 & 0.3854 & 1.349 & 1.3734 \\ \hline 1.3734 & -1.3734 & -1.3249 & -0.3854 & 0.3854 & 1.349 & 1.3734 \\ \hline 1.3734 & -1.3734 & -1.3249 & -0.3854 & 0.3854 & 1.349 & 1.3734 \\ \hline 1.3734 & -1.3734 & -1.3249 & -0.3854 & 0.3854 & 1.349 & 1.3734 \\ \hline 1.3734 & -1.3734 & -1.3249 & -0.3854 & 0.3854 & 1.349 & 1.3734 \\ \hline 1.3734 & -1.3734 & -1.3249 & -0.3854 & 0.3854 & 1.349 & 1.3734 \\ \hline 1.3734 & -1.3734 & -1.3249 & -0.3854 & 0.3854 & 1.3249 & 1.3734 \\ \hline 1.3734 & -1.3734 & -1.3249 & -0.3854 & 0.3854 & 1.349 & 1.3734 \\ \hline 1.3734 & -1.3734 & -1.3249 & -0.3854 & 0.3854 & 0.3854 & 1.349 & 1.3734 \\ \hline 1.3734 & -1.3734 & -1.3249 & -0.385$		$X_i$	-1.0	0.0	1.0	2.0	3.0	4.0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		$y_i$	0.86603	1.0	0.86603	0.50	0.0	-0.50
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3.							
4.		i						
4. $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		$X_{i}$						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		$y_i$	-0.36892	0.0	0.36892	0.85408	1.7856	6.3138
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	4.	•	0	1	2	2	I a	F
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			_					
5. $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		$X_i$						
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	_	$\mathcal{Y}_i$	2.4142	1.0818	0.50953	0.11836	-0.24008	-0.66818
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	٥.	i	0	1	2	3	4	5
6.			_					
6. $ \begin{array}{c c c c c c c c c c c c c c c c c c c $			-2.3026	-0.69315	-0.10536	0.26236	0.53063	0.74194
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	6	Уi						
7. $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		i	0	1	2	3	4	5
7. $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		$X_i$	-3.0	-2.0	-1.0	0.0	1.0	2.0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		$y_i$	0.04979	0.13534	0.36788	1.0	2.7183	7.3891
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	7.		I				I	
8. $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		i						
8. $ \begin{array}{c c c c c c c c c c c c c c c c c c c $		$X_i$	0.0	0.2	0.4	0.6	0.8	1.0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		$y_i$	1.0	1.0032	1.0512	1.2592	1.8192	3.0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	8.			_		_		
9. $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		i	_					
9. $ \begin{vmatrix} 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 \\  \end{vmatrix}                                 $		$X_i$						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		$\mathcal{Y}_{i}$	-0.7754	-0.41152	-0.1001/	0.20136	0.5236	0.9273
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	9.	;	0	1	2	3	1	5
$ \begin{vmatrix} x_i \\ y_i \end{vmatrix} = 2.3462 + 1.9823 + 1.671 + 1.3694 + 1.0472 + 0.6435 $ 10. $ \begin{vmatrix} i & 0 & 1 & 2 & 3 & 4 & 5 \\ x_i & -5.0 & -3.0 & -1.0 & 1.0 & 3.0 & 5.0 \\ \end{vmatrix}  $			_					
10. $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			2.3462					
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	10	$\mathcal{Y}_i$			=			
$x_i$ -5.0 -3.0 -1.0 1.0 3.0 5.0		i	0	1	2	3	4	5
_1 3734			-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.						<u> </u>	
	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.						1	
	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	0.0	1.7	2 3.4	3 5.1	6.8	5 8.5
	$X_i$						
	$y_i$	0.0	3.0038	5.2439	7.3583	9.4077	11.415
19.		0	1	2	3	4	5
	i	-0.7	-0.4	-0.1	0.2	0.5	0.8
	$X_i$						
	$y_i$	-1.4754	-0.81152	-0.20017	0.40136	1.0236	1.7273
20.	•	0	1	2	3	4	5
	i	-0.7	-0.4	-0.1	0.2	0.5	0.8
	$X_i$	1.6462	1.5823	1.571	1.5694	1.5472	1.4435
	$y_i$	1.0402	1.3023	1.371	1.3094	1.3472	1.4433
21.	i	0	1	2	3	4	5
		-5.0	-3.0	-1.0	1.0	3.0	5.0
	$X_i$	-6.3734	-4.249	-1.7854	1.7854	4.249	6.3734
	$y_i$	0.0/01	7.47	1./001	1.7001	4.447	0.0/04

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.		T					
	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.		T 0		0			
	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.	•	T 0	1	0	2	I 4	
	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	Ι 4	5
	i	0 -1.0	0.0	1.0	2.0	3.0	5.0
	$X_i$						
	$y_i$	-0.86603	0.0	0.86603	1.0	0.0	-4.3301
29.	i	0	1	2	3	4	5
		-3.0	-2.0	-1.0	0.0	1.0	2.0
	$X_i$	-0.14936	-0.27067	-0.36788	0.0	2.7183	14.778
30.	$y_i$	0.11000	0.27007	0.00700		2.7.100	= 1 . 7 . 0
JU.	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
•		·					