Eliton Machado da Silva

2)

Questao 1:

Aproximação da raiz de f pelo método do ponto fixo no intervalo (2, 3) com x0 = 0.5 é

itr	x	g(x)	f(x)
0	0.5	7.25	-6.75
1	7.25	4.107758620689655	45.5625
2	4.107758620689655	2.9059254803343344	9.873680885850174
3	2.9059254803343344	2.6573983059399398	1.4444028972563316
4	2.6573983059399398	2.6457768346169543	0.06176575641246185
5	2.6457768346169543	2.645751311187702	0.0001350585957107242
6	2.645751311187702	2.6457513110645907	6.514442318916736e-10
7	2.6457513110645907	2.6457513110645907	8.881784197001252e-16
8	2.6457513110645907	2.6457513110645907	8.881784197001252e-16
9	2.6457513110645907	2.6457513110645907	8.881784197001252e-16
10	2.6457513110645907	2.6457513110645907	8.881784197001252e-16

Questao 2:

Aproximação da raiz de f pelo método do ponto fixo no intervalo (2, 3) com x0 = 0.5 é

itr	x	g(x)	f(x)
0	0.5	22.25	-10.875
1	22.25	11.136109708370155	11004.140625

itr	x	g(x)	f(x)
2	11.136109708370155	5.6124050649370805	1370.0216988262923
3	5.6124050649370805	2.980810747911499	165.78565569692822
4	2.980810747911499	2.109409982670013	15.485197174163591
5	2.109409982670013	2.2907682447178663	-1.6139472450674592
6	2.2907682447178663	2.1934784755750494	1.0210793115019392
7	2.1934784755750494	2.239870061529677	-0.44641211215910204
8	2.239870061529677	2.2162037939640884	0.23746817565225165
9	2.2162037939640884	2.2279092153717617	-0.1149837417293913
10	2.2279092153717617	2.2220259161225107	0.0584044467617062

Questao 3:

Aproximação da raiz de f pelo método do ponto fixo no intervalo (2, 2.5) com x0 = 0.25 é

itr	x	g(x)	f(x)
0	0.25	6.6332495807108	-10.984375
1	6.6332495807108	1.2877547884506972	280.8629815512752
2	1.2877547884506972	2.9226698257841086	-8.864500272362772
3	2.9226698257841086	1.9400211501975566	13.965442467742033
4	1.9400211501975566	2.3811848473113923	-3.6983771947459525
5	2.3811848473113923	2.14931360352882	2.501416372578216
6	2.14931360352882	2.262280483238776	-1.0711405645337315
7	2.262280483238776	2.2050737442595554	0.57815466052479
8	2.2050737442595554	2.233493965906477	-0.2781591997251063
9	2.233493965906477	2.219238360830697	0.1417741419895755
10	2.219238360830697	2.226354753363341	-0.07020912446026628

Questao 4:

Aproximação da raiz de f pelo método do ponto fixo no intervalo (2, 3) com x0 = 0.5 é

itr	x	g(x)	f(x)
0	0.5	15.0	-10.875
1	15.0	10.016296296296296	3364.0
2	10.016296296296296	6.714078316184105	993.8968602948738
3	6.714078316184105	4.557391172607725	291.66291343045174
4	4.557391172607725	3.2147990316080515	83.65616834826373
5	3.2147990316080515	2.4979831476615413	22.22473200098578
6	2.4979831476615413	2.2529364878343587	4.587214518150125
7	2.2529364878343587	2.2243506650277465	0.4352811392909519
8	2.2243506650277465	2.223980152303198	0.005499597304853054
9	2.223980152303198	2.2239800905693174	9.160235698857377e-07
10	2.2239800905693174	2.2239800905693157	2.842170943040401e-14

Questao 5:

Aproximação da raiz de f pelo método do ponto fixo no intervalo (1, 2) com x0 = 0.5 é

itr	x	g(x)	f(x)
0	0.5	0.6931471805599453	-0.3512787292998718
1	0.6931471805599453	0.8697416861919439	-0.3862943611198908
2	0.8697416861919439	1.0077693523972922	-0.35318901126399704
3	1.0077693523972922	1.1037784891091011	-0.27605533241069624
4	1.1037784891091011	1.1655095814085512	-0.192018273423618
5	1.1655095814085512	1.2032783120671362	-0.12346218459890013
6	1.2032783120671362	1.2257019934724969	-0.07553746131716998

itr	x	g(x)	f(x)
7	1.2257019934724969	1.2387811009981406	-0.04484736281072177
8	1.2387811009981406	1.2463315316422	-0.026158215051288014
9	1.2463315316422	1.2506645006179395	-0.015100861288118939
10	1.2506645006179395	1.2531426110608315	-0.00866593795147974

Questao 6:

Aproximação da raiz de f pelo método do ponto fixo no intervalo (1, 2) com x0 = 0.5 é

itr	x	g(x)	f(x)
0	0.5	1.6509636244473134	-4.375
1	1.6509636244473134	1.7811787446035972	-1.1509636244473134
2	1.7811787446035972	1.7947562143455076	-0.13021512015628378
3	1.7947562143455076	1.796160149270828	-0.01357746974191043
4	1.796160149270828	1.7963051935286607	-0.001403934925320982
5	1.7963051935286607	1.7963201771024784	-0.00014504425783279373
6	1.7963201771024784	1.7963217249432655	-1.4983573817239915e-05
7	1.7963217249432655	1.7963218848389522	-1.5478407879854217e-06
8	1.7963218848389522	1.7963219013565608	-1.5989568780128138e-07
9	1.7963219013565608	1.7963219030628694	-1.6517608614208257e-08
10	1.7963219030628694	1.796321903239135	-1.7063088719737607e-09

Questao 7:

Aproximação da raiz de f pelo método do ponto fixo no intervalo (1, 2) com x0 = 0.5 é

itr	x	g(x)	f(x)
0	0.5	1.5137000520175454	-5.1875
1	1.5137000520175454	1.643240237987656	-2.041287847477921

itr	x	g(x)	f(x)
2	1.643240237987656	1.6658122210610329	-0.40895063226380746
3	1.6658122210610329	1.6698371807924781	-0.07469187609456451
4	1.6698371807924781	1.670557588793337	-0.013425854520681568
5	1.670557588793337	1.6706866161089335	-0.0024064471180391678
6	1.6706866161089335	1.6707097280220784	-0.00043111177051180505
7	1.6707097280220784	1.6707138680119642	-7.722606208737659e-05
8	1.6707138680119642	1.6707146096027108	-1.383345989225404e-05
9	1.6707146096027108	1.6707147424429405	-2.4779724405732395e-06
10	1.6707147424429405	1.6707147662384487	-4.438762406522301e-07

Questao 8:

Aproximação da raiz de f pelo método do ponto fixo no intervalo (2, 3) com x0 = 0.5 é

itr	x	g(x)	f(x)
0	0.5	2.2397127693021015	3.479425538604203
1	2.2397127693021015	2.3922470398135642	0.305068541022925
2	2.3922470398135642	2.340579903497753	-0.10333427263162243
3	2.340579903497753	2.359030656340122	0.03690150568473838
4	2.359030656340122	2.3525492338175287	-0.012962845045185745
5	2.3525492338175287	2.354839831502556	0.004581195370053859
6	2.354839831502556	2.354032010216767	-0.0016156425715774247
7	2.354032010216767	2.354317115460837	0.0005702104881395442
8	2.354317115460837	2.3542165193494866	-0.00020119222270054138
9	2.3542165193494866	2.3542520168198866	7.099494079954027e-05
10	2.3542520168198866	2.3542394911942455	-2.5051251282270925e-05