LABORATORIO 1

Nombre: *Lehi Quincho Mamani*
Tema: *Método de Bisección*

Experimentos con:

$3x^5 + 2x\exp(-x) + 5\cos(x) - 4 = 0$	$6\tan^{-1}(4x-5) + \exp(-2x+1)\sin(x+\pi) - x^2 = 0$
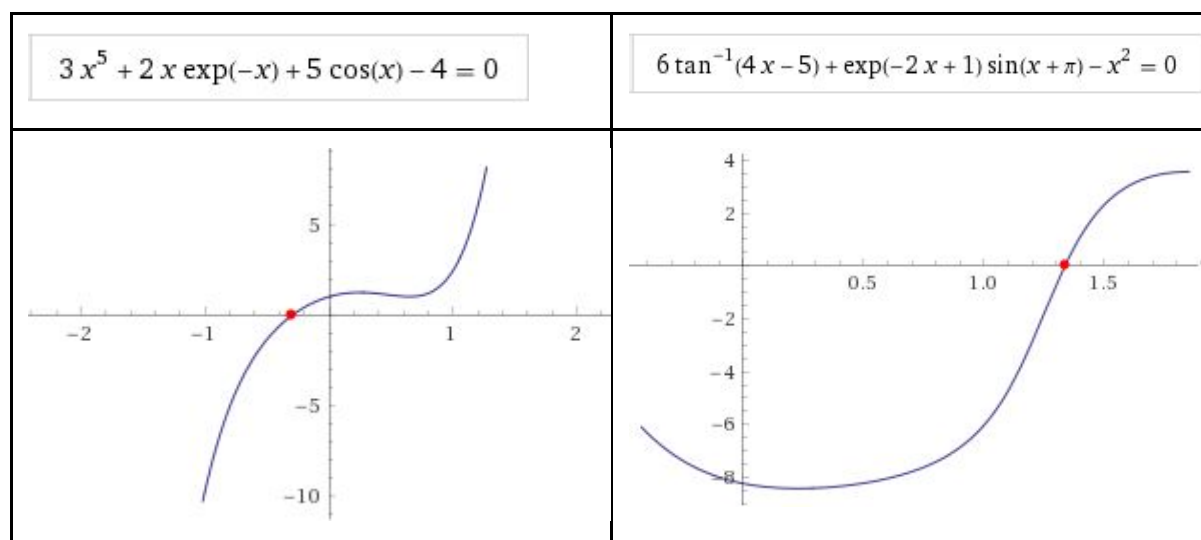
Capturas de Pantalla de los resultados

   Primera ecuación:

$$3x^5 + 2x\exp(-x) + 5\cos(x) - 4 = 0$$

a) biseccion(a,b,f,n)

0	-2	5	1.5	19.8043
1	-2	1.5	1.5	19.8043
2	-2	-0.25	-0.25	0.19962
3	-1.125	-0.25	-1.125	-14.1807
4	-0.6875	-0.25	-0.6875	-3.33111
5	-0.46875	-0.25	-0.46875	-1.10535
6	-0.359375	-0.25	-0.359375	-0.366961
7	-0.304688	-0.25	-0.304688	-0.0646089
8	-0.304688	-0.277344	-0.277344	0.0720311
9	-0.304688	-0.291016	-0.291016	0.00486999

10	-0.297852	-0.291016	-0.297852	-0.0295761
11	-0.294434	-0.291016	-0.294434	-0.0122802
12	-0.292725	-0.291016	-0.292725	-0.00368693
13	-0.292725	-0.29187	-0.29187	0.000596067
14	-0.292297	-0.29187	-0.292297	-0.0015443
15	-0.292084	-0.29187	-0.292084	-0.000473831
16	-0.292084	-0.291977	-0.291977	6.11888E-05
17	-0.29203	-0.291977	-0.29203	-0.000206303
18	-0.292004	-0.291977	-0.292004	-7.25528E-05
19	-0.29199	-0.291977	-0.29199	-5.68089E-06

b) biseccion(a,b,f,tol)

0	-2	5	1.5	19.8043
0	-2	1.5	1.5	19.8043
1	-2	-0.25	-0.25	0.19962
2	-1.125	-0.25	-1.125	-14.1807
3	-0.6875	-0.25	-0.6875	-3.33111
4	-0.46875	-0.25	-0.46875	-1.10535
5	-0.359375	-0.25	-0.359375	-0.366961
6	-0.304688	-0.25	-0.304688	-0.0646089
7	-0.304688	-0.277344	-0.277344	0.0720311
8	-0.304688	-0.291016	-0.291016	0.00486999
9	-0.297852	-0.291016	-0.297852	-0.0295761
10	-0.294434	-0.291016	-0.294434	-0.0122802
11	-0.292725	-0.291016	-0.292725	-0.00368693

c) biseccion(a,b,f,tol)

0	-2	5	1.5	7	19.8043
1	-2	1.5	1.5	3.5	19.8043
2	-2	-0.25	-0.25	1.75	0.19962
3	-1.125	-0.25	-1.125	0.875	-14.1807
4	-0.6875	-0.25	-0.6875	0.4375	-3.33111
5	-0.46875	-0.25	-0.46875	0.21875	-1.10535
6	-0.359375	-0.25	-0.359375	0.109375	-0.366961
7	-0.304688	-0.25	-0.304688	0.0546875	-0.0646089
8	-0.304688	-0.277344	-0.277344	0.0273438	0.0720311
9	-0.304688	-0.291016	-0.291016	0.0136719	0.00486999
10	-0.297852	-0.291016	-0.297852	0.00683594	-0.0295761
11	-0.294434	-0.291016	-0.294434	0.00341797	-0.0122802
12	-0.292725	-0.291016	-0.292725	0.00170898	-0.00368693
13	-0.292725	-0.29187	-0.29187	0.000854492	0.000596067

Segunda ecuación:

$$6 \tan^{-1}(4x - 5) + \exp(-2x + 1)\sin(x + \pi) - x^2 = 0$$

a) biseccion(a,b,f,n)

0	-2	5	1.5	2.32739
1	1.5	5	1.5	2.32739
2	1.5	3.25	3.25	-1.88341
3	2.375	3.25	2.375	2.45583
4	2.8125	3.25	2.8125	0.559522
5	2.8125	3.03125	3.03125	-0.601036
6	2.8125	2.92188	2.92188	-0.00488993
7	2.86719	2.92188	2.86719	0.281381

8	2.89453	2.92188	2.89453	0.139248
9	2.9082	2.92188	2.9082	0.0674284
10	2.91504	2.92188	2.91504	0.0313314
11	2.91846	2.92188	2.91846	0.0132362
12	2.92017	2.92188	2.92017	0.00417701
13	2.92017	2.92102	2.92102	-0.000355493
14	2.92059	2.92102	2.92059	0.001911
15	2.92081	2.92102	2.92081	0.000777815
16	2.92091	2.92102	2.92091	0.000211176
17	2.92091	2.92097	2.92097	-7.21549E-05
18	2.92094	2.92097	2.92094	6.95114E-05
19	2.92094	2.92095	2.92095	-1.32149E-06

b) biseccion(a,b,f,tol)

0	-2	5	1.5	2.32739
0	1.5	5	1.5	2.32739
1	1.5	3.25	3.25	-1.88341
2	2.375	3.25	2.375	2.45583
3	2.8125	3.25	2.8125	0.559522
4	2.8125	3.03125	3.03125	-0.601036
5	2.8125	2.92188	2.92188	-0.00488993
6	2.86719	2.92188	2.86719	0.281381
7	2.89453	2.92188	2.89453	0.139248
8	2.9082	2.92188	2.9082	0.0674284
9	2.91504	2.92188	2.91504	0.0313314
10	2.91846	2.92188	2.91846	0.0132362
11	2.92017	2.92188	2.92017	0.00417701

c) biseccion(a,b,f,tol)

0	-2	5	1.5	7	2.32739
1	1.5	5	1.5	3.5	2.32739

2	1.5	3.25	3.25	1.75	-1.88341
3	2.375	3.25	2.375	0.875	2.45583
4	2.8125	3.25	2.8125	0.4375	0.559522
5	2.8125	3.03125	3.03125	0.21875	-0.601036
6	2.8125	2.92188	2.92188	0.109375	-0.00488993
7	2.86719	2.92188	2.86719	0.0546875	0.281381
8	2.89453	2.92188	2.89453	0.0273438	0.139248
9	2.9082	2.92188	2.9082	0.0136719	0.0674284
10	2.91504	2.92188	2.91504	0.00683594	0.0313314
11	2.91846	2.92188	2.91846	0.00341797	0.0132362
12	2.92017	2.92188	2.92017	0.00170898	0.00417701
13	2.92017	2.92102	2.92102	0.000854492	-0.000355493