

## MÉTODO DE BISECCIÓN

TÍTULO

Método de Bisección.

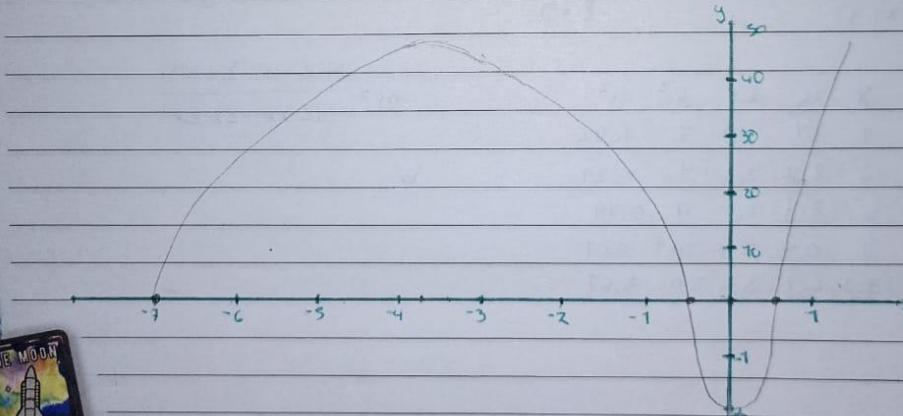
FECHA

Hallar la raíz del siguiente polinomio  $f(x) = x^3 + 7x^2 - 2$  en un intervalo de  $[0, 1]$  hasta un error de 0.5%.

Solución:

Raíces

i	$x_i$	$x_s$	$x_m$	$f(x_i)f(x_m)$
1	0	1	$1/2$	$f(0)f(1/2) = (-2)(-0.13) = 0.26$
2	$1/2$	1	$3/4$	$f(1/2)f(3/4) = (-0.13)(2.36) = -0.29$
3	$1/2$	$3/4$	$5/8$	$f(1/2)f(5/8) = (-0.13)(0.98) = -0.12$
4	$1/2$	$5/8$	$9/8$	$f(1/2)f(9/8) = (-0.13)(0.39) = -0.05$
5	$1/2$	$9/8$	$1/2$	$f(1/2)f(1/2) = (-0.13)(0.13) = -0.02$
6	$1/2$	$1/2$	$1/2$	$f(1/2)f(1/2) = (0.13)(0) = 0$
7	$1/2$	$1/2$	$1/2$	$f(1/2)f(1/2) = (0)(0.06) = 0$
8	$1/2$	$1/2$	$1/2$	$f(1/2)f(1/2) = (0)(0.03) = 0$
9	$1/2$	$1/2$	$1/2$	$f(1/2)f(1/2) = (0)(0.07) = 0$



JEAN BOOK

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	A	B	C	D	E	F	G	H	I
1	i	$X_i$	$X_s$	$X_m$	$f(X_i)$	$f(X_m)$	$f(X_i)f(X_m)$	$ea(o/o)$	$ev(o/o)$
2	1	0	1	0.5	-2	-0.13	0.25		2
3	2	0.5	1	0.75	-0.13	2.36	-0.29	33.3333	23
4	3	0.5	0.75	0.63	-0.13	0.98	-0.12	20	10.5
5	4	0.5	0.63	0.56	-0.13	0.39	-0.05	11.1111	4.25
6	5	0.5	0.56	0.53	-0.13	0.13	-0.02	5.8824	1.125
7	6	0.5	0.53	0.52	-0.13	0	0	3.0303	0.4375
8	7	0.52	0.53	0.52	0	0.06	0	1.4925	0.3437
9	8	0.52	0.52	0.52	0	0.03	0	0.7519	0.0469
10	9	0.52	0.52	0.52	0	0.01	0	0.3774	0.2422
11	10	0.52	0.52	0.52	0	0.01	0	0.189	0.3398
12	11	0.52	0.52	0.52	0	0	0	0.0946	0.3887
13	12	0.52	0.52	0.52	0	0	0	0.0473	0.4131
14	13	0.52	0.52	0.52	0	0	0	0.0237	0.4253
15	14	0.52	0.52	0.52	0	0	0	0.0118	0.4192
16	15	0.52	0.52	0.52	0	0	0	0.0059	0.4161
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