1= $f(x) = -0.5\overset{a}{x^2} + 2.\overset{b}{5}x + 4.\overset{c}{5}$

$x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$x = \dfrac{-2.5 \pm \sqrt{2.5^2 - 4(-0.5)(4.5)}}{2(-0.5)} \rightarrow x = \dfrac{-2.5 \pm \sqrt{6.25 - -9}}{-1}$

$x = \dfrac{-2.5 \pm \sqrt{15.25}}{-1} \rightarrow \dfrac{-2.5 \pm 3.9051}{-1}$

$X_1 = \dfrac{-2.5 + 3.9051}{-1}$ $\qquad X_2 = \dfrac{-2.5 - 3.9051}{-1}$

$= \dfrac{1.4051}{-1}$ $\qquad\qquad = \dfrac{-6.4051}{-1}$

$X_1 = -1.4051$ $\qquad\qquad X_2 = 6.4051$

Método Biseccción $\qquad$ $Xu = 7$ $X_1 = 0.6$

It	Xu	XI	Xr anterior	f(Xu)	f(XI)	f(Xr)
1	7	6	6.5	-2.5	1.5	-.375
2	6.5	6	6.25	-.375	1.5	0.5937
3	6.15	6.25	6.375	-.375	0.5937	0.1171
4	6.5	6.375	6.4375	-.375	0.1171	-.1264
5	6.4375	6.375	6.4065	.1264	0.1171	-0.0043

Falsa Posición $x_0 = 7$, $x_1 = 6$

It	x_0	x_1	x_r	$f(x_0)$	$f(x_1)$	$f(x_r)$
1	7	6	6.375	-2.5	1.5	0.1171
2	7	6.375	6.4039	-2.5	0.1171	0.00033
3	7	6.4039	6.4049	-2.5	0.00033	0.000591
4	7	6.4049	6.40051	-2.5	0.000591	4.1867×10^{-5}
5	7	6.40051	6.405134	-2.5	4.1867×10^{-5}	2.9632×10^{-6}

2.- $f(x) = 5x^2 - 5x^2 + 6x - 2$ (a, b, c)

$\dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ → $\dfrac{-(-5) \pm \sqrt{(-5)^2 - 4(5)(6)}}{2(5)}$

$\dfrac{5 \pm \sqrt{25 - 120}}{10}$ → $\dfrac{5 \pm \sqrt{-95}}{10}$ ← Raíz imaginaria

$x_1 = \dfrac{1}{10}(5 + i\sqrt{95})$ $x_2 = \dfrac{1}{10}(5 + i\sqrt{95})$

3.- Método Bisección $f(x) = \ln(x^2) = .7$

$x_o = 0.5$ $x_u = 2$ $\ln(x^2) - .7 = 0$

It	X_o	X_1	X_f	$f(x_u)$	$f(x_1)$	$f(x_f)$
1	2	0.5	1.25	-2.0862	0.6862	-0.2537
2	1.625	1.25	1.625	0.6862	-0.2537	0.2710
3	1.25	1.4375	1.25	1.4375	0.2710	-0.2537 0.0258

Determinar analiticamente

$f(x) = \ln(x^2) = .7$

→, $x^2 = e^{.7}$

→ $x_1 = \sqrt{e^{.7}}$ $x_2 = -\sqrt{e^{.7}}$

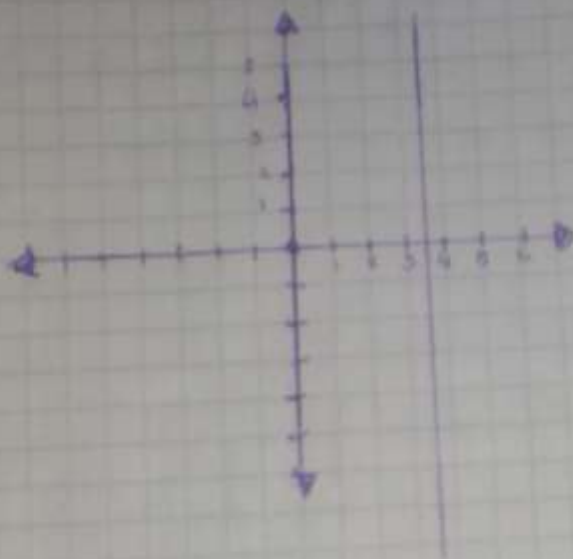$x_1 = 1.4190$ $x_2 = -1.4190$

4.- $x^{3.5} = 80$

Analíticamente

$\rightarrow x^{7/2} = 80$

$7\sqrt{x} = 6400$

$\rightarrow \sqrt{x^{7/2}} = 80^2$

$\rightarrow x = 3.4973$

Forma Gráfica

Método bisección

$$x_1 = 1 \qquad x_u = 3$$

$$f(x_u) = \sqrt{(3)^4} - 80 = -33.23$$

$$f(x_1) = \sqrt{1^4} - 80 = -79$$

$$f(x_u) \cdot f(x_1) = 2685.17$$

Valor Positivo entonces
no hay raíz
no hay método en bisección
no hay método en Falsa posición