bisection $f(x) = 3 - 4\sqrt{x+2} + x$

iter	x_l	x_r	x_u	$f(x_l)$	$f(x_r)$	$f(x_u)$	E_a	ε_a
1	10	11	12	-0.85641	-0.42221	0.03337		
2	11	11.5	12	-0.42221	-0.19694	0.03337	0.5	0.043478
3	11.5	11.75	12	-0.19694	-0.0824	0.03337	0.25	0.021277
4	11.75	11.875	12	-0.0824	-0.02466	0.03337	0.125	0.010526

$$f(x) = x^3 \sin(x)$$

$$f'(x) = 3x^2 sin(x) + x^3 \cos(x)$$

iter	x_i	$f(x_i)$	$f'(x_i)$	E_a	ε_a
0	3.5	-15.0398	-53.0419		
1	3.216454	-2.48875	-35.5041	0.283546	0.088155
2	3.146356	-0.14837	-31.2886	0.070097	0.022279
3	3.141614	-0.00067	-31.0075	0.004742	0.001509

$$4x - y + 2z = 12.5$$

$$2x - 6y + 3z = 23.1$$

$$x + y + 5z = 9.7$$

4	-1	2	12.5
2	-6	3	23.1
1	1	5	9.7

x	y	z	$\varepsilon_{a,x}$	$\varepsilon_{a,y}$	$\varepsilon_{a,z}$	$E_{a,x}$	$E_{a,y}$	$E_{a,z}$
0	0	0						
3.125	-2.80833	1.876667	1	1	1	3.125	2.808333	1.876667
1.484583	-2.41681	2.126444	1.104968	0.162002	0.117463	1.640417	0.391528	0.249778

x	f(x)(b0)	b1	b2
-2	14	-11	4
0	-8	9	
3	19		

$$f_2(x) = b_0 + b_1(x - x_0) + b_2(x - x_0)(x - x_1)$$

$$f_2(x) = 14 - 11(x + 2) + 4(x + 2)x$$

$$f_2(x) = 14 - 11x - 22 + 4x^2 + 8x$$

$$f_2(x) = 4x^2 - 3x - 8$$

f(1)= -7

Q4

1	B
2	A
3	D
4	B
5	A