

3.11 once and for all

$$\begin{cases} 10x - y + 4z = 1 \\ 7y - 5z = 2 \\ -x + 2z = 3 \end{cases}$$

$$A = \begin{pmatrix} 10 & -1 & 4 \\ 0 & 7 & -5 \\ -1 & 0 & 2 \end{pmatrix}$$

$$b = \begin{pmatrix} 1 \\ 2 \\ 3 \end{pmatrix}$$

$$|10| > |-1| + |4| \quad \checkmark$$

$$|7| > |0| + |5| \quad \checkmark$$

$$|2| > |-1| + |0| \quad \checkmark$$

$$x = \frac{1 + y - 4z}{10}$$

$$y = \frac{2 + 5z}{7}$$

$$z = \frac{3 + x}{2}$$

	x	y	z
1	0	0	0
2	$x = 0.1$	$y = 0.2857142857$	$z = 1.55$
3	$x = \frac{1 + 0.2857142857 - 4(1.55)}{10}$	$y = \frac{2 + 5(1.55)}{7} =$	$z = \frac{3 + (-0.4914285714)}{2} =$
	-0.4914285714	1.392857143	1.254285714
	$1 + 1.392857143 - 4(1.254285714)$	$2 + 5(1.254285714)$	$3 + (-0.2624285713)$
	-0.0000000000	2.877142857	0.7375714287

4	$X = \frac{1 + 1.181632653 - 4(1.368785714)}{10}$ -0.2624285713	$y = \frac{2 + 5(1.181632653)}{7}$ 1.181632653	$Z = \frac{3 + (-0.3293510203)}{2}$ 1.368785714
5	$X = \frac{1 + 1.181632653 - 4(1.368785714)}{10}$ -0.3293510203	$y = \frac{2 + 5(1.368785714)}{7}$ 1.263418367	$Z = \frac{3 + (-0.3293510203)}{2}$ 1.33532449
6	$X = \frac{1 + 1.263418367 - 4(1.33532449)}{10}$ -0.3077879593	$y = \frac{2 + 5(1.33532449)}{7}$ 1.23957493	$Z = \frac{3 + (-0.3077879593)}{2}$ 1.34610602
7	$X = \frac{1 + 1.23957493 - 4(1.34610602)}{10}$ -0.3144906587	$y = \frac{2 + 5(1.34610602)}{7}$ 1.247218586	$Z = \frac{3 + (-0.3144906587)}{2}$ 1.342754671
8	$X = \frac{1 + 1.247218586 - 4(1.342754671)}{10}$ -0.3123800098	$y = \frac{2 + 5(1.342754671)}{7}$ 1.244824765	$Z = \frac{3 + (-0.3123800098)}{2}$ 1.343804995
9	$X = \frac{1 + 1.244824765 - 4(1.343804995)}{10}$ -0.3130415215	$y = \frac{2 + 5(1.343804995)}{7}$ 1.245578568	$Z = \frac{3 + (-0.3130415215)}{2}$ 1.343479239
10	$X = \frac{1 + 1.245578568 - 4(1.343479239)}{10}$ -0.3128338388	$y = \frac{2 + 5(1.343479239)}{7}$ 1.245342314	$Z = \frac{3 + (-0.3128338388)}{2}$ 1.343583081
11	$X = \frac{1 + 1.245342314 - 4(1.343583081)}{10}$ -0.312899001	$y = \frac{2 + 5(1.343583081)}{7}$ 1.245416486	$Z = \frac{3 + (-0.312899001)}{2}$ 1.3435505
12	$X = \frac{1 + 1.245416486 - 4(1.3435505)}{10}$ -0.3128785514	$y = \frac{2 + 5(1.3435505)}{7}$ 1.245393214	$Z = \frac{3 + (-0.3128785514)}{2}$ 1.343560724
13	$X = \frac{1 + 1.245393214 - 4(1.343560724)}{10}$ -0.3128849682	$y = \frac{2 + 5(1.343560724)}{7}$ 1.245400517	$Z = \frac{3 + (-0.3128849682)}{2}$ 1.343557516
14	$X = \frac{1 + 1.245400517 - 4(1.343557516)}{10}$ -0.3128829547	$y = \frac{2 + 5(1.343557516)}{7}$ 1.245398226	$Z = \frac{3 + (-0.3128829547)}{2}$ 1.343558523
15	$X = \frac{1 + 1.245398226 - 4(1.343558523)}{10}$ -0.3128835866	$y = \frac{2 + 5(1.343558523)}{7}$ 1.245398945	$Z = \frac{3 + (-0.3128835866)}{2}$ 1.343558207
16	$X = \frac{1 + 1.245398945 - 4(1.343558207)}{10}$ -0.3128833883	$y = \frac{2 + 5(1.343558207)}{7}$ 1.245398719	$Z = \frac{3 + (-0.3128833883)}{2}$ 1.343558306

מגיד:

(
-0.3130415215,
1.245578568,
1.343479239
)

מגיד.ש.ס:

205591142 - כולל יוני/בני'
313262599 - 3'00' בני'
315875997 - 11' בני' (3'00' בני')