$Z = 2x_1 + x_2$

$A = \begin{pmatrix} 1 & 2 \\ 3 & 1 \\ 1 & 1 \end{pmatrix}$

$b' = \begin{pmatrix} 10 \\ 5 \\ 2 \end{pmatrix}$

S.O.

VB	B^{-1}			X_B
h_1	1	0	-1	8
h_2	0	1	-3	4
x_1	0	0	1	2
$c_B^t B^{-1}$	0	0	2	$z=4$

$X_B = B^{-1}b' = \begin{pmatrix} 1 & 0 & -1 \\ 0 & 1 & -3 \\ 0 & 0 & 1 \end{pmatrix}\begin{pmatrix} 10 \\ 5 \\ 2 \end{pmatrix} = \begin{pmatrix} 8 \\ -1 \\ 2 \end{pmatrix} \rightarrow IS = h_2$

$Y_{x_2} = B^{-1}a_{x_2} = \begin{pmatrix} 1 & 0 & -1 \\ 0 & 1 & -3 \\ 0 & 0 & 1 \end{pmatrix}\begin{pmatrix} 2 \\ 1 \\ 1 \end{pmatrix} = \begin{pmatrix} 1 \\ -2 \\ 1 \end{pmatrix} \rightarrow JE = X_2$

$Y_{h_3} = B^{-1}a_{h_3} = \begin{pmatrix} 1 & 0 & -1 \\ 0 & 1 & -3 \\ 0 & 0 & 1 \end{pmatrix}\begin{pmatrix} 0 \\ 0 \\ 1 \end{pmatrix} = \begin{pmatrix} -1 \\ -3 \\ 1 \end{pmatrix}$

x_n

VB	B^{-1}			X_B
h_1	1	1	-4	
x_2	0	-1	3	
x_1	0	1	-2	
$c_B^t B^{-1}$	0	1	-1	$Z=0$

$c_B^t = (0, 1, 2)$

$B_a^{-1} = \begin{pmatrix} 1 & 0 & -1 \\ 0 & 1 & -3 \\ 0 & 0 & 1 \end{pmatrix}$ ① ② ③

② ' = ② / -2 = $(0 \ \ -\frac{1}{2} \ \ \frac{3}{2})$

① ' = ① − ② ' = $(1 \ \ \frac{1}{2} \ \ -\frac{5}{2})$

③ ' = ③ − ② ' = $(0 \ \ \frac{1}{2} \ \ \frac{1}{2})$

$B^{-1} = \begin{pmatrix} 1 & \frac{1}{2} & -\frac{5}{2} \\ 0 & -\frac{1}{2} & \frac{3}{2} \\ 0 & \frac{1}{2} & \frac{1}{2} \end{pmatrix}$

$c_B^t B^{-1} = (0, 1, 2)\begin{pmatrix} 1 & \frac{1}{2} & -\frac{5}{2} \\ 0 & -\frac{1}{2} & \frac{3}{2} \\ 0 & \frac{1}{2} & \frac{1}{2} \end{pmatrix} = (0 \ \ \frac{1}{2} \ \ \frac{5}{2})$

Está mal pero funciona

$X_B = B^{-1}b' = \begin{pmatrix} 1 & \frac{1}{2} & -\frac{5}{2} \\ 0 & -\frac{1}{2} & \frac{3}{2} \\ 0 & \frac{1}{2} & \frac{1}{2} \end{pmatrix}\begin{pmatrix} 10 \\ 5 \\ 2 \end{pmatrix} = \begin{pmatrix} \frac{15}{2} \\ \frac{1}{2} \\ \frac{7}{2} \end{pmatrix}$

$Z = c_B^t X_B = (0, 1, 2)\begin{pmatrix} \frac{15}{2} \\ \frac{1}{2} \\ \frac{7}{2} \end{pmatrix} = \frac{15}{2} = 7.5$

S.O

$h_1 = 7.5$

$x_2 = 0.5$

$x_1 = 3.5$

$h_2 = 0$

$h_3 = 0$

$Z = 7.5$