

Original matrix

compute reduced row echelon form (rref) of matrix A below:

Equation	Left Side	Right Side
1	$x_1 + 2x_2 + 3x_3$	1
2	$x_1 + x_2 + 4x_3$	2
3	$x_2 + 5x_3$	3

Check

add the zero rows:

Equation	Left Side	Right Side	Equation	Left Side	Right Side
			4		
1	$x_1 + 2x_2 + 3x_3$	1			
2	$x_1 + x_2 + 4x_3$	2			
	$0x_1 + 0x_2 + 0x_3$	0	5		
	$0x_1 + 0x_2 + 0x_3$	0			
	$0x_1 + 0x_2 + 0x_3$	0			
	$0x_1 + 0x_2 + 0x_3$	0			
3	$x_2 + 5x_3$	3			
4	$0x_1 + 0x_2 + 0x_3$	0			
	$0x_1 + 0x_2 + 0x_3$	0			
	$0x_1 + 0x_2 + 0x_3$	0			
5	$0x_1 + 0x_2 + 0x_3$	0			
6	$0x_1 + 0x_2 + 0x_3$	0			
	$0x_1 + 0x_2 + 0x_3$	0			
	$0x_1 + 0x_2 + 0x_3$	0			
	$0x_1 + 0x_2 + 0x_3$	0			
	$0x_1 + 0x_2 + 0x_3$	0			