



UMS
UNIVERSITI MALAYSIA SABAH

UMS KAMPUS RAHMAH
TERAS KECEMERLANGAN DAN KEUNGGULAN



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Solving Linear Equations Using Excel

Computational Methods

Compute the Inverse Matrix of A (*MINVERSE*)

- ▶ Select the cells B6:D8
- ▶ In the formula bar, type $=\text{MINVERSE}(\text{array})$
- ▶ DO NOT PRESS 'ENTER'
- ▶ Press $\text{Ctrl}+\text{Shift}+\text{Enter}$

The screenshot shows the Excel interface with the formula bar containing $\{=\text{MINVERSE}(\text{B2:D4})\}$. The array B2:D4 is circled in blue. The resulting inverse matrix is shown in cells B6:D8, also circled in green.

	A	B	C	D	E	F	G	H
1								
2	A =	1	2	5		B =	21	
3		10	7	6			12	
4		8	9	1			26	
5								
6	A ⁻¹ =	-0.23618	0.21608	-0.11558		X =		
7		0.190955	-0.19598	0.221106				
8		0.170854	0.035176	-0.06533				
9								

You can also use the mouse to select the array)

Calculating X using MMULT

- ▶ Now, we calculate X by multiplying A-1 with B
- ▶ Select the cells G6:G8
- ▶ In the formula bar, type `=MMULT(array1, array2)`
- ▶ Press `Ctrl+Shift+Enter`

	A	B	C	D	E	F	G	H
1								
2	A =	1	2	5		B =	21	
3		10	7	6			12	
4		8	9	1			26	
5								
6	A ⁻¹ =	-0.23618	0.21608	-0.11558		X =	-5.37186	
7		0.190955	-0.19598	0.221106			7.407035	
8		0.170854	0.035176	-0.06533			2.311558	
9								

** You can also use the mouse to select the arrays)