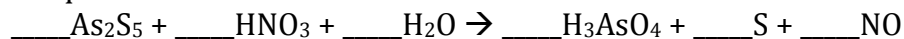


Balancing Chemical Equations Using the TI-83/84 Calculator

Example equation:



Using your calculator, press [2nd] [Matrix]
Select [Edit] from the menu and select "1:[A]"

The first number should be the same as the number of different elements (As, S, H, N, O) = 5

The second number should be the same as the number of different compounds (As₂S₅, HNO₃, H₂O, H₃AsO₄, S, NO) = 6

If the second number is not as large as, or larger than, the first, change the second number to equal the first number.

The matrix will be filled by using the number of each element in the compound.

	As ₂ S ₅	HNO ₃	H ₂ O	H ₃ AsO ₄	S	NO
As	2	0	0	1	0	0
S	5	0	0	0	1	0
H	0	1	2	3	0	0
N	0	1	0	0	0	1
O	0	3	1	4	0	1

Press [2nd][Quit]

Press [2nd][Matrix]

Select [Math] scroll down to "B:rref(", press [Enter] [2nd] [Matrix] [Enter] [Enter]

[Math] [Enter] [Enter]

Scroll to the right to find the largest denominator. (10 for this example)

Multiply the matrix times 10 [Enter]

Scroll right and the coefficients are (ignoring the negative signs): 3, 10, 4, 6, 15, and 10 (this last number is the number in the diagonal).

The balanced equation is:

