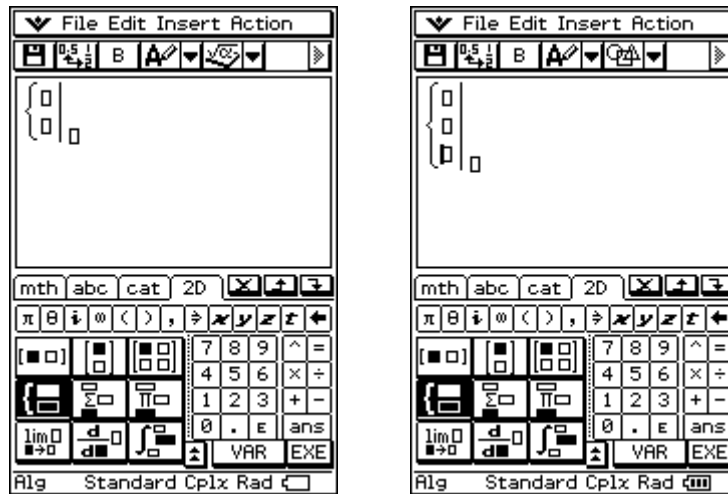


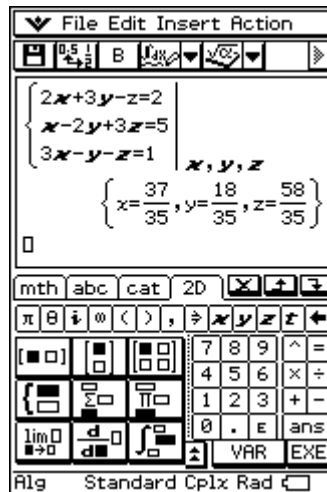
Simultaneous Equations

ClassPad lets you easily select pieces of expressions and drag and drop them to build other expressions. Let's explore these features in the context of solving a system of 3 linear equations by means of matrix inversion.

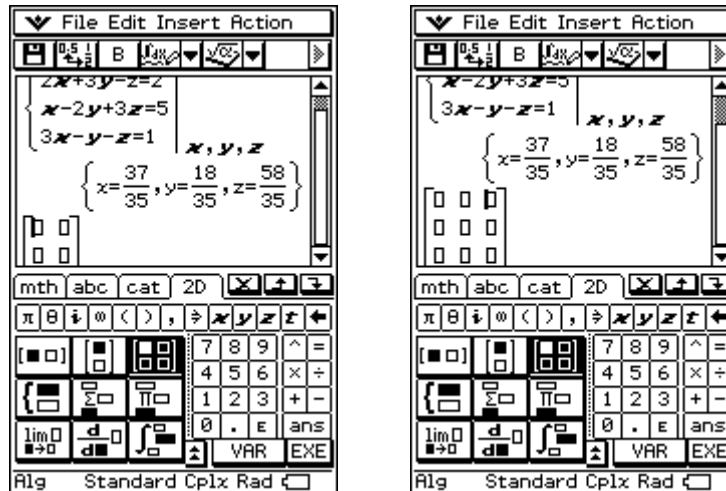
First, the 2D math input has a simultaneous equation template. By default it appears with space for 2 equations. We can lengthen it by clicking a second time on the template:



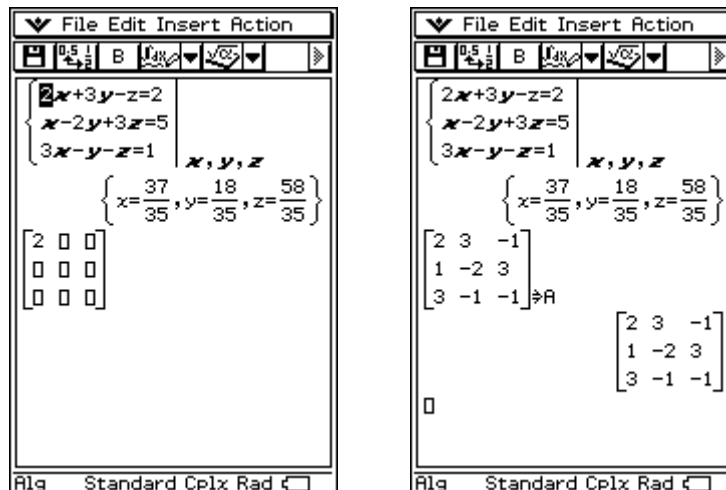
Now we can type in our equations and solve (remembering to make sure that we are in a Calculator Strip and not a Text Strip):



We have solved our equations, but not by matrix methods. To apply matrix methods, we need a matrix. Pressing the 2x2 matrix template gives us a 2x2 matrix. Pressing it again extends the matrix horizontally and vertically to give us a 3x3:



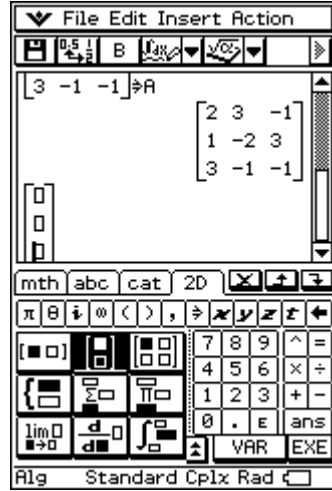
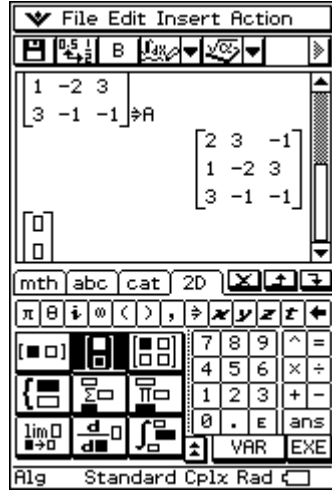
Now we can drag and drop coefficients from the equations into the matrix template:



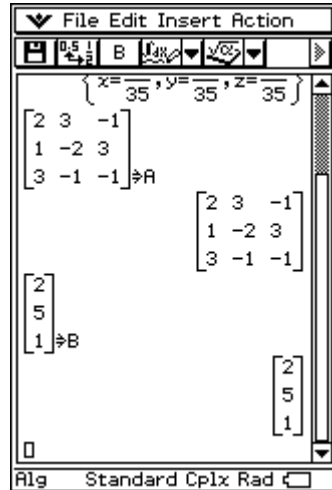
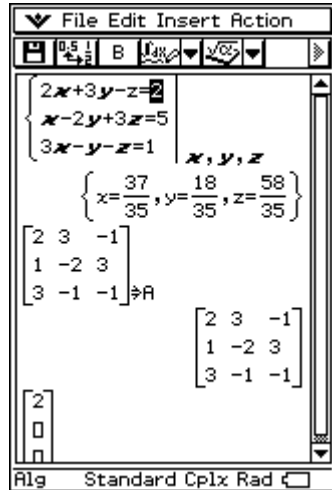
Note the \Rightarrow symbol (found to the left of the x,y,z,t on the soft keypad) is used to assign a value to a variable. In this case, we assign the matrix to variable A.

GETTING THE MOST OUT OF CLASSPAD

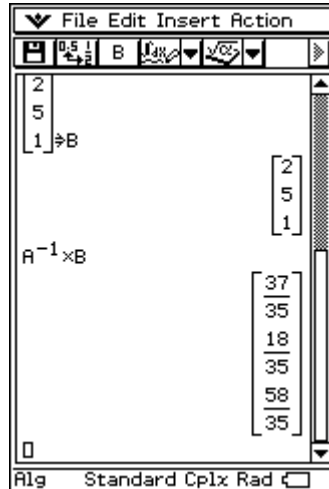
We will want to invert A then apply the inverse matrix to a vector consisting of the right hand sides of the equation. We create a column vector of length 2 with the Column Vector Key, then press it again to extend it to a vector of length 3.



Then drag and drop in the coefficients:



Now solving the equations is equivalent to inverting A and applying the inverted matrix to B :



Which, as long as we dropped the correct coefficients into the correct matrix slots, should correspond to the solutions obtained automatically by ClassPad.

Variable Management

Before proceeding – remember to clear your variables. You can use the DelVar command as before. You cannot use Clear_a_z as this only clears the lower case variables and leaves the upper case ones alone.