Revision

P106 Systems of Linear Equations

ASSIGNMENT

Attempt all the questions in the following slides.

Assignment is to be submitted within **one week** after instruction!!!

Please write your name and your student's id in the script upon submission.

CIE CAL FM P12 2010-06 Q10

Find the set of values of a for which the system of equations

$$x + 4y + 12z = 5,$$
$$2x + ay + 12z = a - 1,$$
$$3x + 12y + 2az = 10,$$

has a unique solution. [4]

Show that the system does not have any solution in the case $a = 18$. [2]

Given that $a = 8$, show that the number of solutions is infinite and find the solution for which $x + y + z = 1$. [5]

CIE CAL FM P1 2006-11 Q5

Show that if $a \neq 3$ then the system of equations

$$2x + 3y + 4z = -5,$$
$$4x + 5y - z = 5a + 15,$$
$$6x + 8y + az = b - 2a + 21,$$

has a unique solution. [3]

Given that $a = 3$, find the value of b for which the equations are consistent. [3]