Linear Equation

- Solve following system

1) X+y+z=6
   X+2y+3z=14
   X+4y+9z=36
2) 2x-3y+2z=5
   3x+y-3z=13
   2x+19y-47z=32
3) X+2y=3
   y-z=2
   x+y+z=1
4) 5x+3y+7z=4
   5x+26y+2z=9
   7x+2y+10z=5
5) X+2y+3z=1
   2x+3y+2z=2
   3x+3y+4z=1
6) $x_1 + 2x_2 - x_3 = 3$
   $3x_1 - x_2 + 2x_3 = 1$
   $2x_1 - 2x_2 + 3x_3 = 2$
7) 2x-y-z=7
   3x-2y-2z=10
   12x-y-7z=19
8) $2x_1 + x_2 + 2x_3 + x_4 = 6$
   $6x_1 - 6x_2 + 6x_3 + 12x_4 = 36$
   $4x_1 + 3x_2 + 3x_3 - 3x_4 = -1$
   $2x_1 + 2x_2 - x_3 + x_4 = 10$
9) What condition must $b_1, b_2\ and\ b_3$ must satisfy in order for
   $x_1 + 2x_2 + 3x_3 = b_1$
   $2x_1 + 5x_2 + 3x_3 = b_2$
   $x_1 + 8x_3 = b_3$
   To be consistent ?
10) Investigate the value of λ and μ so that equations have
    2x+3y+5z=9
    7x+3y-2z=8
    2x+3y+ λz= μ
    1) No solution 2) unique solution 3) infinite solution
11) Discuss for all values of 'a' the solution of the system of equations
    X+y+z=1
    X+2y+4z=a
    X+4y+10z=a^2