Problem 1.
The first player wins. With the first move, let us put the coefficient 1 by $z$ in the first equation. With each of the subsequent moves, we will use the following strategy: if the second player sets a coefficient by $x$ or $y$ in any of the equations to $a$, we will set the coefficient by $x$ or $y$ (whichever is left) in the same equation to $a$ as well. If the second player sets the coefficient by $z$ in one of the equations, then we set the coefficient by $z$ in the last equation to an arbitrary value. It is easy to see (how?) that after the game is over, $(1, -1, 0)$ will be a solution, so the first player wins.