a. The negation of a $\neq$-assignment is also an $\neq$-assignment because flipping the truth value of each literal inside $(true \lor false \lor whatever)$ is $(false \lor true \neg whatever)$; the pair of literals that oppose each other is still opposing each other.

b. To prove that this is NP-complete, we need to prove that it is both NP and NP-hard. It's obviously in NP because it's easy to verify in polynomial-time whether a potential answer is a $\neq$-assignment (see if each clause has a pair of opposing literals).

   To prove it's NP-hard, we will reduce from any 3-SAT problem to obtain an answer for 3-SAT. The polynomial-time conversion from a 3-SAT problem ϕ to a $\neq$-SAT problem $\phi_{\neq}$ is as follows:

   The ith clause in ϕ looks like this:

$$(a_i \lor b_i \lor c_i)$$

   We will transform it into two clauses to obtain $\phi_{\neq}$ as such:

$$(a_i \lor b_i \lor new_i) \land (c_i \lor \neg new_i \lor false)$$

   This is a polynomial time conversion because it's a constant time conversion (it takes 6 steps at most regardless of the clause).

   As you can see, there's a new variable called new for each clause in the transformed formula, and $false$ is a constant that's always false.

   Claim: ϕ is satisfiable if and only if $\phi_{\neq}$ is $\neq$-satisfiable.
   Proof:

   Claim: if ϕ is satisfiable, then $\phi_{\neq}$ is $\neq$-satisfiable.
   Proof: See this table for what new_i and w should be given ϕ's satisfying assignment (0 is $false$ and 1 is $true$); the last row is if the clause is unsatisfiable:

a_i	b_i	new_i	c_i	$\neg new_i$	if $false$ were a variable
1	1	0	1	1	0
1	1	0	0	1	x
1	0	$0, 1$	1	$1, 0$	$0, x$
1	0	$0, 1$	0	$1, 0$	$x, 1$
0	1	$0, 1$	1	$1, 0$	$0, x$
0	1	$0, 1$	0	$1, 0$	$x, 1$
0	0	1	1	0	x
0	0	1	0	0	1

   Cells with two values correspond in order (e.g. $0, 1$ in new_i would force $\neg new_i$ to be $1, 0$). x means whatever (could be either 0 or 1).
   We set new_i to be always 0 unless both a and b are 0. In any case, $false$ is always 0 (it's a constant) and it would make for a $\neq$-assignment if given a satisfying assignment for ϕ.

Claim: if ϕ is unsatisfiable, then $\phi_{\neq}$ is also unsatisfiable.
Proof: If ϕ is unsatisfiable, then $\exists$ at least one clause where all three literals are false (i.e. $a_i = 0, b_i = 0, c_i = 0$). This would force new_i to be 1, and of course $\neg new_i$ to be 0. But $false$ is a constant and is always 0, so the second clause would be all 0 and thus $\neq$-unsatisfiable, causing the entire ϕ_{neq} to be $\neq$-unsatisfiable.