CS 4810 Homework Assignment 5 due Friday class Oct 4

Please place your net ID in upper right corner of your homework

1. How would you determine if two regular expressions denoted the same set?
2. Use h, h^{-1}, and $\cap R$ to transform $\{wcw|w\,\epsilon\,(a+b)^*\}$ to $\{0^n1^n\}$.
3. Prove that the set $\{wcw|w\epsilon(a+b)^*\}$ is not regular.
4. Consider the set L of all strings of 0's and 1's with an equal number of substrings 01 and 10. The substrings 01 and 10 may overlap. Thus 010 is in L as well as 0110. Is L a regular set or not a regular set? Give a compelling argument for your answer.
5. Minimize the following automaton. Start state is A and the set of final sets is $\{C\}$.

	0	1
start$A$	B	D
B	E	C
C	B	C
D	E	A
E	B	C