CS 305 Tutorial

Design Turing Machine for following problems:

$\Sigma = \{a, b\}$

1. $L(M) = aba^*b$
2. $L = \{w : |w| \text{ is even}\}$.
3. $L = \{w : n_a(w) = n_b(w)\}$.
4. $L = \{a^n b^{2n} : n \geq 1\}$.
5. $L(a(a+b)^*)$ in no more than three states. Is it possible to do this with a two-state machine?