CSC-161, Dr. Ostheimer, Practice Pumping

Let A be an automaton with 99 states, and let L be the language it accepts. Suppose that the word $w = a^{100}ba^{100}$ is in L. For each of the following statements, determine whether it is **True**, **False** or whether there is **Not Enough Information** given to determine if the statement is true or false.

1. A accepts w.
2. A accepts $a^{101}ba^{100}$.
3. A accepts a^jba^{100} for some $j > 100$.
4. A accepts $a^{100}ba^j$ for some $j > 100$.
5. L is infinite.
6. L is a subset of the language given by the regular expression a^*ba^*,