2. (a) 
\[
\begin{align*}
S & \rightarrow aS \mid a \\
T & \rightarrow aS
\end{align*}
\]

This is just odd length string of a's
\[
S \rightarrow S, x_1, \lambda \\
S \rightarrow x_3, \lambda \\
S \rightarrow \lambda, \lambda
\]

(b) 
\[a(a, b)^* | (a, b)^* \]

(c) Yes - Just consist of a sequence of identifiers separated by an. Grammar would be:
\[
E \rightarrow E + E | E * E | E
\]

which can be made into a regular grammar easily.

Note semantics changes: 2+3*4 has different meaning in language Env squared is still recognized.

5b) States S3 + S4 have same item lists, but contiguously.
\[
\begin{align*}
[ & x \rightarrow 0, 1, 33] \\
[ & y \rightarrow 0, 13]
\end{align*}
\]

so ambiguous inadequate state, so not LALR(1).