1. On the exam, there was a true/false statement that there is an effective procedure to
decide whether or not the language accepted by a TG has at least 100 words. The
statement is true. Describe an effective procedure for solving this decision problem.
Remember that it must stop with a yes/no answer for all possible TGs.

2. On the exam, there was a true/false statement claiming that there is an effective
procedure to decide, given two regular expressions $r_1$ and $r_2$, whether or not the number
of strings that they do not have in common is finite. There is such a procedure. Describe
it.

3. Describe a decision procedure to determine whether or not a FA with alphabet \{a,b\}
accepts any words that contain the substring "aaa" or the substring "bbb".

4. Take FA$_1$ of problem 3 on page 217 and FA$_1$ of problem 4 and write a regular expression
for the set of all words accepted by both machines. Do it however you like but show your
work.