Problem 1

a. Give three strings accepted by this NFA-ε.

cat, kittycat, kittykittykittykittykittykittykittykittykitty

b. Write an equivalent regular expression. (You don't need to use the state elimination method.)

(kitty)*cat

Problem 2

Fill in the blanks. Do it for the Pumping Llama.

If $A$ is a regular language, then there is a number $p$ (the pumping length) where if $s$ is any string in $A$ of length at least $p$, then $s$ may be divided into three pieces, $s = xyz$, satisfying the following conditions:

1. For each $i \geq 0$, $xy^iz \in A$,
2. $|y| > 0$, and
3. $|xy| \leq p$. 