step 1: fill in circles with base combination assigned to you

step 2: for each of the 5 branches, determine whether the transition is a "transition", a "transversion", or a "no change"

step 3: compute the transition probability for each of the 5 branches using the appropriate formula (the formula used depends on kappa, branch length, and the type of transition)

step 4: compute the likelihood of this site conditional on your particular combination of ancestral states (compute the product of the 6 numbers below)

freq of base at root = 0.25
Pr(change on branch 1) =
Pr(change on branch 2) =
Pr(change on branch 3) =
Pr(change on branch 4) =
Pr(change on branch 5) =

product of above 6 values =
ln(product) =

step 5: show me the natural logarithm of your conditional likelihood and I will check to see if it is correct