**16.**Fill in the blanks and circle the correct responses.

You are a genetics counselor. A couple is very concerned about their first baby’s thumbs- that is, will they be hitchhiker’s thumbs?  The lack of this thumb characteristic is dominant, H. Having the hyperextendable thumb is recessive. The mother does have a hitchhiker’s thumb while the father does not.

a)    What is/are the possible genotype(s) for the mother?

b)    What is/are the possible genotype(s) for the father?

c)    Is there any possibility of the couple having a baby that does not have hitchhiker’s thumbs?  YES      or     NO      (Circle one)

Their baby ends up having hitchhiker’s thumbs.  Does this tell you anything new about:

d)   the mother’s genotype?    YES      or     NO       New genotype:    \_\_\_\_\_

e)   the father’s genotype?      YES      or     NO       New genotype:     \_\_\_\_\_\_\_

f)    The baby grows up and meets a mate with hitchhiker’s thumbs. Could they have a baby that does not have the hyperextension?            YES      or     NO

**16.**Fill in the blanks and circle the correct responses.

You are a genetics counselor. A couple is very concerned about their first baby’s earwax - that is, will it be wet earwax or dryearwax?  The production of earwax is controlled by the E gene.  The production of wet ear wax is a dominant trait, while having dry earwax is recessive. The mother has dry earwax while the father has wet earwax.

a)    What is/are the possible genotype(s) for the mother?

b)    What is/are the possible genotype(s) for the father?

c)    Is there any possibility of the couple having a baby that has wet earwax?   YES      or     NO      (Circle one)

Their baby ends up having dry earwax.  Does this tell you anything new about:

d)   the mother’s genotype?    YES      or     NO       New genotype:    \_\_\_\_\_\_

e)   the father’s genotype?      YES      or     NO       New genotype:     \_\_\_\_\_\_\_

f)    The baby grows up and meets a mate with dry earwax. Could they have a baby that does not have dry earwax?            YES      or     NO