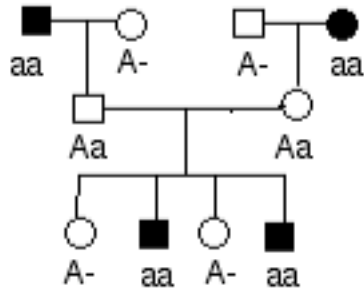


**PRACTICE PROBLEMS 2**  
**ANSWERS**

1. (a)



(b)  $P(aa) = 0$        $P(Aa) = 2/3$        $P(AA) = 1/3$

2. One can always fill in all the genotypes for every possible hypothesis and see which ones have internal contradictions. Better is to look for certain basic features that will often allow one to decide the issue quickly. For example: If the trait is dominant, all affected individuals must have at least one affected parent. Remember when considering sex linkage that females must get an X from their father and males must get their only X from their mothers (because they got a Y from their fathers).

- (a) Yes; genotypes of parents would be Aa and aa, and offspring left to right would be aa, Aa, aa, Aa.
- (b) Yes; genotypes of parents would be aa and Aa, and offspring would be Aa, aa, Aa, and aa.
- (c) Yes; genotypes of parents would be Aa and aY and offspring would be aY, Aa, aa, and AY.
- (d) No; parents would be aa and aY. Affected male offspring would have to get Y from the father and X from their mother, but both maternal X chromosomes have the recessive allele.