

1. For each of the individuals with genotypes below list all the **different** (and only different) possible gametes. Do not use unneeded lines.

a) AABb

b) aaBbtt

c) DdEeGg

d) MmNnRrYy

2. Two gray rats are mated. They produce more gray and a few white offspring.

a) What is the likely genotype of the parents? (use G for gray)

b) Draw a Punnett square showing the gametes and probable offspring genotype **and phenotype** (in the squares) produced by the two black mice.

3. You have two bean plants from true-breeding stocks. One plant has red flowers and is short. the other has white flowers and is climbs very tall. Using the letter "R" (both upper and lower case) for flower color, and "T" (upper and lower case) for tallness, write out the genotype of the two parent plants and the genotype and phenotype of the **F1** offspring.

a) If red is dominant to white, and tall is dominant to short.

Parent 1:

Parent 2:

F1:

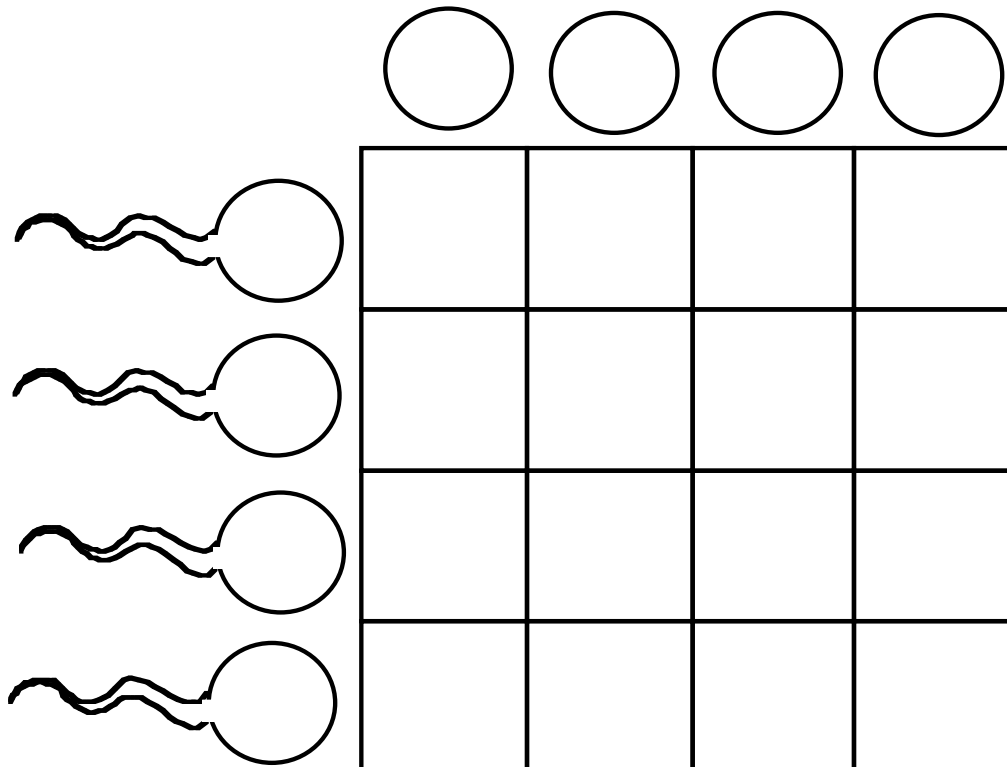
b) If red is incompletely dominant to white. In this case a plant heterozygous for the R genes will be pink. Tall is still dominant.

Parent 1:

Parent 2:

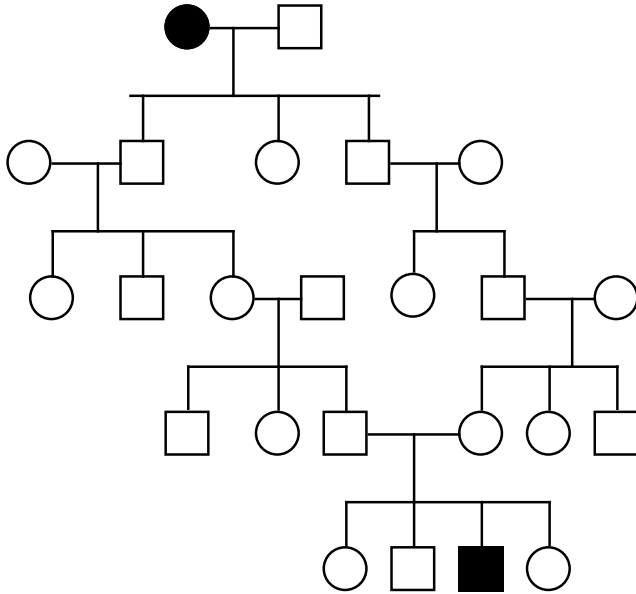
F1:

c) Do a Punnet square showing the genotypes and phenotypes for the F2 generation from b).

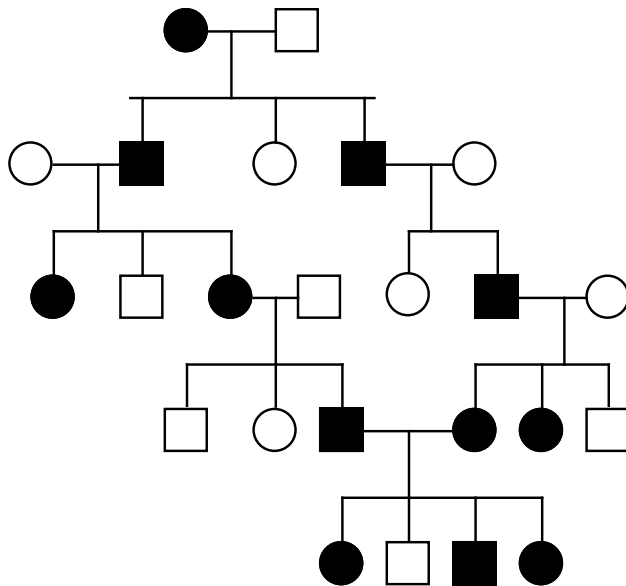


4. What is the most likely mode of inheritance of the human traits represented here?
Assume all traits are very rare.

a)



b)



c) Number pedigree b) in the standard way