Hardy Weinberg Training Wheels

Problem Solving Steps: (Do Now)

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Example Problem: If 9% of an African population is born with a severe form of sickle-cell anemia (ss), what percentage of the population will be more resistant to malaria because they are heterozygous(Ss) for the sickle-cell gene?

Step 1:

Step 2:

Step 3:

Step 4:

Know The Terms!

Match the following genotype frequencies with their corresponding allele frequency values.

 Genotype allele frequency value

 f(AA) Q2

 f(Aa) P2

 f(aa) 2PQ

Practice Problem 1: In pigeons, blue feathers are dominant to red. A biologist studying the native pigeon population of Baltimore surveys the birds, and finds that only 2 of the 50 birds she observed had red feathers. What percentage of Baltimore’s pigeon population is heterozygous for feather color?

Step 1:

Step 2:

Step 3:

Step 4:

Practice Problem 2: In a species of dog fur color is codominant. Dogs may be black, white, or white with black spots. 15% of the dog population is black. What percent of the dogs are white? What percent are spotted?

Step 1:

Step 2:

Step 3:

Step 4: (2 parts)