Name: _____ Period: __ Date: _____

Worksheet #1 – Genetics Practice Problem (monohybrid)

Use keyed and labeled diagrams to show the following genetic crosses. These are all based on traits that Gregor Mendel saw in his pea plants.

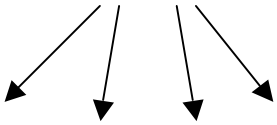
Example:

Tallness is dominant over shortness.

Cross: Heterozygous tallness X Homozygous shortness

Let T = gene for tallness, t = gene for shortness

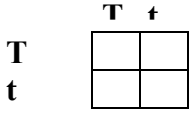
Parents Tt X tt



Gametes T t t t

Genotype: 1/2 Tt, 1/2 tt

Phenotype: 1/2 tall, 1/2 short



1. Round seeds are dominant over wrinkled seeds.
   Cross: Homozygous round seeds X Homozygous wrinkled seeds.

2. Axial flowers are dominant over terminal flowers.
   Cross: Heterozygous axial flowers X Homozygous axial flowers.

3. Colored seed coats are dominant over white seed coats.
   Cross: Heterozygous colored seeds X Heterozygous colored seeds.

4. A blue-eyed child has a brown-eyed mother and a brown-eyed father. Is this child thinks that he is adopted? Show how it is possible for him to have blue eyes. Does blue eyes gene recessive or dominant? Develop a key and explain your answer.

5. Albinism (lack of pigment) in man is caused by a recessive gene. If normal parents have an albino child, what is the probability that their next child will be normal for color? Develop a key and show the genotypes of each parent and the results of the mating.