**Dihybrid Crosses Practice Worksheet**

Use the following key for the next problems about pea plants:

P= Purple flowers p = white flowers T = tall t = short

1. A plant has the following genotype: PpTt. Do FOIL and list the gametes that this parent plant could pass on.
2. Perform the following cross: PPTT x Pptt. Write the phenotype ratio of the offspring.

|  |
| --- |
| Note: In actuality, both of these characteristics may be more complex than researchers originally thought… |

1. Imagine that Hitchhiker’s thumb and attached earlobes are both recessive traits. A man who is heterozygous for both traits marries a woman who is also heterozygous for both traits. Now they are expecting a baby. What is the probability that their child will have both a hitchhiker’s thumb and attached earlobes.

|  |
| --- |
| Interesting Statistic: One person in 17,000 has some type of albinism. It affects people from all races. |

1. Albinism is a recessive genetic condition characterized by a reduced or lack of pigment that normally gives color to the skin, hair, and eyes.Epidermodysplasia verruciformis (tree man illness) is an extremely rare recessive skin disorder associated with a high risk of carcinoma of the skin. A man with albinism who is a carrier of tree man illness, marries a woman that is a carrier of albinism and is homozygous for normal skin (she is not a carrier of tree man illness).
   1. What percent of their children would be expected to have both albinism and tree man illness?
   2. What are the chances that they would have a child with albinism that would NOT have tree man illness?
   3. What are the chances that they would have a child with neither albinism nor tree man illness?