Name _____Date _____ Period _____

Genetics Practice Problems #3 – Monohybrid Problems Worksheet 1

Directions: Using the table and rules below, complete Table 2:

If you use a separate sheet of paper to set up and solve your problems, attach work showing Punnett Squares to receive credit. No Punnett squares – No credit

Rules for writing symbols
1. Dominant alleles are always capitalized usually by using the first letter of the trait as the symbol.
2. The recessive allele is always represented by the small case letter of the symbol for the dominant allele.

EXAMPLE: homozygous recessive for stem length x heterozygous for stem height

Genotypes	Phenotype Traits
Parents (P$_1$) tt x Tt	T = tall stem (dominant allele)
Gametes (G$_1$) t,t (male) T,t (female)	t = short stem (recessive allele)

F$_1$	**By convention the dominant allele is written first**
<table><tr><td></td><td>t</td><td>t</td></tr><tr><td>T</td><td>Tt</td><td>Tt</td></tr><tr><td>t</td><td>tt</td><td>tt</td></tr></table>	F1 = Filial 1 = the probable offsprings of Parents (P1) Phenotypic Ratio = 2 Tall : 2 Short stems or 2 tall stem:2 short stem Genotypic Ratio = 2 Tt : 2 tt. or 1 Tt : 1 tt Heterozygous for stem height : Homozygous recessive for stem height

Table 1: Mendel's Traits and Symbols for Pea Plants

Traits	Dominant Allele	Symbol	Recessive Allele	Symbol
Seed Shape	Round	R	Wrinkled	r
Seed Color	Yellow	Y	Green	y
Seed Coat Color	Colored	C	White	c
Pod Shape	Smooth	S	Constricted	s
Pod Color	Green	G	Yellow	g
Stem Height	Tall	T	Short	t
Flower Position	Axial	A	Terminal	a

Problems

1. Heterozygous for seed color x Homozygous dominant for seed color (Example)