Name _____Date _____ Period _____

Genetics Practice Problems #1

1. For each genotype below, indicate whether it is heterozygous (He) or homozygous (Ho)

AA_____	Ee_____	Ii_____	Mm_____	Pp_____
Bb_____	ff_____	Jj_____	nn_____	LL_____
Cc_____	Gg_____	kk_____	oo_____	HH_____

2. For each of the **genotypes** below determine what **phenotypes** would be possible.

Purple flowers are dominant to **white** flowers

PP_____

Pp_____

pp_____

Brown eyes are dominant to **blue** eyes

BB_____

Bb_____

bb_____

Round seeds are dominant to wrinkled seeds

RR_____

Rr_____

rr_____

Bobtails in cats are recessive

TT_____

Tt_____

tt_____

3. For each **phenotype** below, list the possible **genotypes** (remember to use the letter of the dominant trait)

Straight hair is dominant to curly

_____ Straight

_____ Straight

_____ Curly

Pointed heads are dominant to round heads

_____ Pointed

_____ Pointed

_____ Round

4. Set up the Punnett squares for each of the crosses listed below. ***Round seeds** are dominant to **wrinkled seeds**.*

Rr x rr

What percentage of the offspring will be round?_____

RR x rr

What percentage of the offspring will be round?_____

RR x Rr

What percentage of the offspring will be round?_____

Rr x Rr

What percentage of the offspring will be round?_____

Practice with Crosses. Show all work!

5. A TT (tall) plant is crossed with a tt (short plant). What percentage of the offspring will be tall? _____

6. A Tt plant is crossed with a Tt plant. What percentage of the offspring will be short? _____

7. A heterozygous round seeded plant (Rr) is crossed with a homozygous round seeded plant (RR). What percentage of the offspring will be homozygous (RR)? _____

8. A homozygous round seeded plant is crossed with a homozygous wrinkled seeded plant. What are the genotypes of the parents? _____ x _____. What percentage of the offspring will also be homozygous? _____

9. In pea plants purple flowers are dominant to white flowers. If two white flowered plants are cross, what percentage of their offspring will be white flowered? _____

10. A white flowered plant is crossed with a plant that is heterozygous for the trait. What percentage of the offspring will have purple flowers?_____

11. Two plants, both heterozygous for the gene that controls flower color are crossed. What percentage of their offspring will have purple flowers? _____ What percentage will have white flowers? _____