Name _____ Date _____

Homework: **Phenotype/ Genotype**

1. For each genotype below, indicate whether it is:
   He → heterozygous, Ho-A →homozygous dominant, Ho-R → homozygous recessive

YY_____	Ff _____	CC_____	Oo_____	RR _____
Xx _____	kk_____	NN_____	ee_____	Aa _____
WW _____	Ss _____	bb_____	Hh _____	Ii _____
Uu _____	GG _____	dd _____	Qq_____	mm _____

2. For each genotype below, indicate whether it is a **Purebred** or a **Hybrid**.

YY_____	Ff _____	CC_____	Oo_____	RR _____
Xx _____	kk_____	NN_____	ee_____	Aa _____
WW _____	Ss _____	bb_____	Hh _____	Ii _____
Uu _____	GG _____	dd _____	Qq_____	mm _____

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

Yellow flowers are dominant to red flowers.

YY_____

Yy_____

yy_____

Bobtails in cheetahs are recessive.

TT_____

Tt_____

tt_____

Brown eyes are dominant to blue eyes .

BB_____

Bb_____

bb_____

Square shape is dominant to round shape.

QQ_____

Qq_____

qq_____

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

Green leaf is dominant to orange.

_____ green

_____ orange

Pointed snout is dominant to round snout.

_____ _ pointed

_____ _ round

Thick skin is dominant to thin skin.

_____ thin skin

_____ _ thick skin

Short stem is dominant to long stem.

_____ _ long

_____ __ short

A. The Punnett square below is for a Monohybrid cross between pea plants that are heterozygous for seed shape (Rr). Complete the Punnett square by recording the expected genotypes and phenotypes of the offspring. Then answer the questions that follow.

Rr x Rr

	R	***r***
R		
r		

1. Out of 4 offspring, how many *RR* offspring would you expect? _____

2. Out of 4 offspring, how many ***Round*** offspring would you expect? _____

3. Out of 4 offspring, how many ***wrinkled*** offspring would you expect? _____

4. Out of 4 offspring, how many ***heterozygotes*** would you expect? _____

5. Out of **100** offspring, how many ***homozygotes*** would you expect? _____

B. Complete the Punnett square by recording the expected genotypes and phenotypes of the offspring. Then answer the questions that follow.

Rr x rr

	r	***r***
R		
R		

6. How many **Round** individuals would you expect out of 4 offspring? _____

7. How many **wrinkled** individuals would you expect out of 4 offspring? _____

8. How many ***Rr*** individuals would you expect out of 4 offspring? _____

9. How many ***RR*** individuals would you expect out of 4 offspring? _____

10. How many ***rr*** individuals would you expect out of 4 offspring? _____