

Name: \_\_\_\_\_

Period: \_\_\_\_\_

### Genetics Review Worksheet – Unit Test on Wednesday or Thursday

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

AA _____	Ee _____	Ii _____	Mm _____
Bb _____	ff _____	Jj _____	nn _____
Cc _____	Gg _____	kk _____	oo _____
DD _____	HH _____	LL _____	Pp _____

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

*Purple flowers are dominant to white flowers. Brown eyes are dominant to blue eyes.*

PP \_\_\_\_\_

BB \_\_\_\_\_

Pp \_\_\_\_\_

Bb \_\_\_\_\_

pp \_\_\_\_\_

bb \_\_\_\_\_

*Bobtails in cats are recessive.*

*Round seeds are dominant to wrinkled seeds.*

TT \_\_\_\_\_

RR \_\_\_\_\_

Tt \_\_\_\_\_

Rr \_\_\_\_\_

tt \_\_\_\_\_

rr \_\_\_\_\_

3. For each **phenotype** below, list the **genotypes** (use the letter of the dominant trait or the characteristic)

*Straight hair is dominant to curly.*

*Pointed heads are dominant to round heads.*

\_\_\_\_\_ straight

\_\_\_\_\_ pointed

\_\_\_\_\_ straight

\_\_\_\_\_ pointed

\_\_\_\_\_ curly

\_\_\_\_\_ round

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4. Set up the Punnet 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? \_\_\_\_\_

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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? \_\_\_\_\_

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12. In guinea pigs, the allele for short hair is dominant.

What genotype would a heterozygous short haired guinea pig have?

\_\_\_\_\_

What genotype would a purebreeding short haired guinea pig have?

\_\_\_\_\_

What genotype would a long haired guinea pig have? \_\_\_\_\_

13. Show the cross for a pure breeding short haired guinea pig and a long haired guinea pig.

What percentage of the offspring will have short hair? \_\_\_\_\_

14. Show the cross for two heterozygous guinea pigs.

What percentage of the offspring will have short hair? \_\_\_\_\_

What percentage of the offspring will have long hair? \_\_\_\_\_

15. Two short haired guinea pigs are mated several times. Out of 100 offspring, 25 of them have long hair. What are the probable genotypes of the parents?

\_\_\_\_\_ x \_\_\_\_\_

**Show the cross to prove it!**