Genetics Practice Problems - Simple Worksheet

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

AA	Ee	Ii	Mm
	ff	Jj	nn
Сс	Gg	kk	00
DD	HH	LL	Рр

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

Purple flowers	are	dominant	to
white flowers.			

Bobtails in cats are recessive.

Π_____

Tt _____

tt

Pp			

PP_____

pp_____

Brown eyes are dominant to blue eyes

Round seeds are dominant to

wrinkled seeds

BB	RR
Bb	Rr
bb	rr

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

Straight hair is dominant to curly.

Pointed heads are dominant to round heads.

____ straight

_____ pointed

_____ curly

_____ round

4. Set up the Punnet squares for each of the crosses listed below.

Round seeds are dominant to wrinkled seeds.

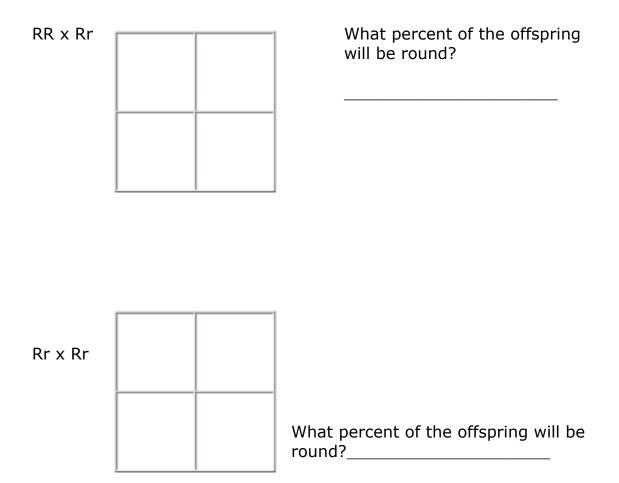
 RR x rr
 What percentage of the offspring will be round?

 Rr x rr
 What percent of the offspring will be round?

 What percent of the offspring will be round?

Name: _____

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Practice with Crosses. Show all work! 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)? _____

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Name: _____

8. A homozygous round seeded plant is crossed with a homozygous wrinkled seeded plant.

Genetics Worksheet

What are the genotypes of the parents?

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?

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?				

Name: _____

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?

Show the cross to prove it!