Monohybrid Cross Worksheet

Name _____

Period _____

Part A: Vocabulary

Match the definitions on the left with the terms on the right.

____ 1. genotypes made of the same alleles	A. alleles
____ 2. different forms of genes for a single trait	B. dominant
____ 3. gene that is always expressed	C. heterozygous
____ 4. gene that is expressed only in the homozygous state	D. homozygous
____ 5. genotypes made of two different alleles	E. recessive

Below each of the following words are choices. Circle the choices that are examples of each of those words.

6. Dominant allele

D e k L N n R S

7. Recessive allele

M n d F G r k P

8. Homozygous dominant

AA Gg KK mm uu Rr TT

9. Homozygous recessive

ee Ff HH Oo qq Uu ww

10. Genotypes in which dominant gene must show

AA Dd EE ff Jj RR Ss

11. Genotypes in which recessive gene must show

aa Gg Ff KK rr Oo Tt

Part B: Punnett Squares

12. Examine the following Punnett squares and circle those that are correct.

	D	d
d	Dd	dd
d	Dd	dd

	D	D
d	Dd	DD
d	Dd	Dd

	A	a
A	AA	aa
a	Aa	Aa

	A	a
a	Aa	aa
a	Aa	aa

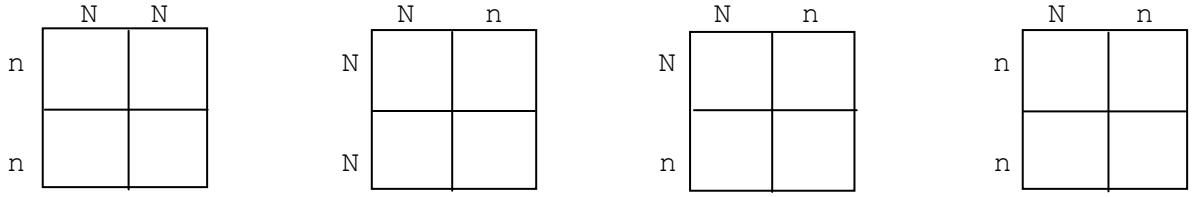
13. What do the letters on the outside of the Punnett square stand for? _____

_____

14. What do the letters on the inside of the Punnett square stand for? _____

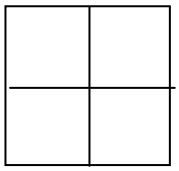
_____

15. In corn plants, normal height, *N*, is dominant to short height, *n*. Complete these four Punnett squares showing different crosses. Then, shade red all the homozygous dominant offspring. Shade green all the heterozygous offspring. Leave all the homozygous recessive offspring unshaded.



16. In guinea pigs, short hair, *S*, is dominant to long hair, *s*. Complete the following Punnett squares according to the directions given. Then, fill in the blanks beside each Punnett square with the correct numbers.

a. One guinea pig is *Ss* and one is *ss*.

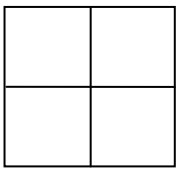


Expected number of offspring:

____ Short hair (SS or Ss)

____ Long hair (ss)

b. Both guinea pigs are *heterozygous* for short hair.



Expected number of offspring:

____ Short hair

____ Long hair

Part C: Monohybrid Cross Problems - Show your work.

17. Hornless (H) in cattle is dominant over horned (h). A homozygous hornless bull is mated with a homozygous horned cow. What will be the genotype and phenotype of the first generation?

P_1

F_1

18. In tomatoes, red fruit (R) is dominant over yellow fruit (r). A plant that is homozygous for red fruit is crossed with a plant that has yellow fruit. What would be the genotypes and phenotypes of the P_1 and F_1 generations?

    P_1

    F_1

19. If two of the F_1 generation from the above cross were mated, what would be the genotypes and phenotypes of the F_2?

    F_1

    F_2

20. In humans, being a tongue roller (R) is dominant over non-roller (r). A man who is a non-roller marries a woman who is heterozygous for tongue rolling.

    Father's phenotype _____ Mother's phenotype _____

    Father's genotype _____ Mother's genotype _____

    What is the probability of this couple having a child who is a tongue roller? _____

21. Brown eyes in humans are dominant to blue eyes. A brown-eyed man, whose mother was blue-eyed, marries a brown-eyed woman whose father had blue eyes.
    What is the probability that this couple will have a blue-eyed child? _____