Name:_____

Worksheet #1: Complete Dominance Problems

Read the following problems and answer all missing information. At the very end, please rate what you think your level of understanding is.

1. Yellow seeds (Y) are dominant to green seeds (y). Cross a homozygous yellow-seeded pea plant and a homozygous green-seeded pea plant, answer the following questions.

a. Key:

Yellow = _____

Green = _____

b. Which gene is Dominant? _____ Which gene is recessive? _____

c. What is the genotype of the yellow parent? _____ the green parent? _____

d. What is the phenotype of the yellow parent?_____ the green parent? _____

e. Fill in the Punnett square for this cross:

	_____	_____
_____		
_____		

What are the results?

f. What are the possible genotypes of this offspring? _____, _____, _____

g. What are the possible phenotypes of this offspring? _____, _____

h. What is the ratio of the phenotypes?_____:_____.

2. Attached ear lobes (a) are recessive to free ear lobes (A). Answer the following questions if both parents are heterozygous.

a. Key:

Unattached ear lobes = _____

Attached ear lobes = _____

b. Which gene is Dominant? _____ Which gene is recessive? _____

c. What is the genotype of the male parent? _____ & the female parent?_____

d. What is the phenotype of the male parent? _____ & the female parent? _____

e. Fill in the Punnett square for this cross:

What are the results?

f. What are the possible genotypes of this offspring? _____: _____: _____

g. What are the possible phenotypes of this offspring? _____ : _____

h. What is the ratio of possible genotypes of this offspring (Hint: homozygous dominant: heterozygous: homozygous recessive)? _____ : _____ : _____

4. Tall (T) is dominant to short (t). Cross a homozygous short pea plant and a heterozygous tall plant, answer the following questions.

a. Key:
Tall = _____
Short = _____

b. Which gene is Dominant? _____ Which gene is recessive? _____

c. What is the genotype of the tall parent?_____ & the short parent? _____

d. . What is the phenotype of the tall parent? _____ & the short parent? _____

e. Fill in the Punnett square for this cross:

What are the results?

f. What are the possible genotypes of this offspring? _____: _____: _____

g. What are the possible phenotypes of this offspring? _____: _____

5. Challenge yourself! ☺

Black hair (B) is dominant to brown hair (b). Cross a black rabbit and a brown rabbit. The black rabbit had a brown haired mother.

a. If the black rabbit had a brown haired mother what is the genotype of the black rabbit? _____

b. What is the genotype of the brown rabbit? _____

c. What are the phenotypes of the black parent?_____ & brown parent? _____

f. Fill in the Punnett square for this cross:

Key:
Black = _____
Brown = _____
