

Name _____

Chapters 11: Introduction to Genetics Review

Mendel's Genetics

1.) What is an allele?

2.) What is a dominant allele & when do you see the dominant trait? (one copy/two copies)

3.) What is a recessive allele & when do you see the recessive trait? (one copy/two copies)

4.) What were the four conclusions Mendel made about genetics? Describe them as well.

a.)

b.)

c.)

d.)

5.) Give examples of a homozygous genotype and a heterozygous genotype.

6.) What is a phenotype and give an example?

7.)

Trait	dominant	recessive
hairline	Widow's peak	No Widow's peak
Earlobe position	unattached	attached

What would the genotypic and phenotypic ratios of the offspring be if one parent has attached earlobes with no Widow's peak and the other is heterozygous for both traits?

8.) Hearing (D) is known to be dominant to a type of deafness (d), and having healthy metabolism (P) is known to be dominant to having the disease pku (p). A married couple -- let's call them Barbie and Ken -- have these phenotypes and genotypes.

Barbie is ddPP (deaf but normal metabolism)

Ken is Ddpp (can hear but he has pku)

They ask their genetic counselor, "What is the probability of our having a normal child (one that **can hear** and does **not** have pku)?" What does their counselor tell them?

9.) What do Punnett squares represent for offspring?

10.) What is a gene?

11.) What is a gamete?

12.) How do gametes relate to Mendel's law of segregation?