

Unit 8B Exam Review-Genetics & Mutations

1. Define Gene-
2. Define Homozygous- Define Heterozygous-
3. Define Gamete-
4. Define Codominance-
5. Define Incomplete dominance-
6. Define Phenotype-
7. Define Sex-linked traits-
8. Explain how the principle of probability is used to study genetics.
9. What did Gregor Mendel use to study the inheritance of traits?
10. List three things that Punnet squares show.
11. A red parent flower was crossed with a white parent flower to produce all red flowers in the first generation. If two red flowers from the first generation were crossed to produce a 3:1 ratio of red to white in the second generation, then what is the genotype of the original parents?
12. Give an example of codominance
13. Give an example of incomplete dominance
14. What are some examples of polygenic traits?
15. Be able to write the completed karyotype (such as 47 XX + 17) when given a karyotype analysis.

16. List three ways that a pedigree chart can be used

17. Use the dihybrid table to answer the questions below

A heterozygous pea plant with purple flowers, and smooth pea texture ($PpSs$) was crossed with another heterozygous pea plant for the same trait ($PpSs$)

		PpSs				
		PS	Ps	pS	ps	
PpSs	PS	PPSS	PPSs	PpSS	PpSs	Flower Color P = Purple p = yellow
	Ps	PPSs	PPss	PpSs	Ppss	
	pS	PpSS	PpSs	?	ppSs	Pea Texture S = smooth s = wrinkled
	ps	PpSs	Ppss	ppSs	ppss	

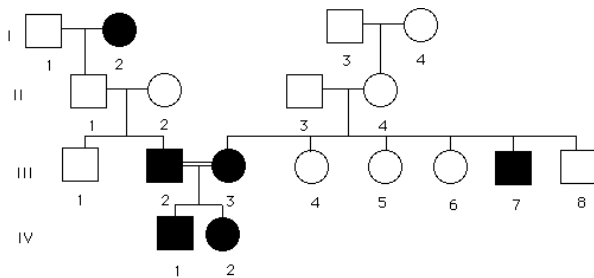
a. Write the **phenotype** of the offspring represented by the **question mark**.

b. Write the **genotype** of the offspring represented by the **question mark**.

c. How many of the offspring would be expected to have **yellow flowers and wrinkled peas**?

d. Be able to identify the genotype and phenotype of each offspring in the table above.

18. Use the pedigree chart below to answer the following questions.



	Normal	Albino
Male		
Female		

a. Is individual II-1 homozygous or heterozygous for normal pigment? Explain.

b. How many children of individuals II – 3 and II – 4 have albinism?

c. If individual IV-1 and IV-2 have a child what would the genotype and phenotype be?

d. Are any of the offspring for individuals I-I and I – 2 homozygous for normal pigment? If so, which ones?