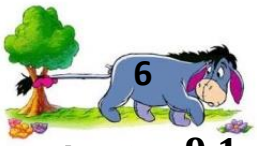

Name _____

EOR 12 (chapter 9A)

DIRECTIONS: Read sections 9.1 → 9.10 in the textbook and answer the following questions:

1) WHO was Gregor Mendel, WHEN and WHERE did he live, and WHAT did he contribute to the world of science?

2) Explain Mendel's technique for cross-fertilizing pea plants?

3) Summarize what happened when Mendel crossed true-breeding **purple** flowered pea plants with true-breeding **white** flowered pea plants during his famous pea plant experiments? (see figure 9.3A)

First generation (F_1) results:

Second generation (F_2) results:

4) Explain Mendel's Law of Segregation with a **pea plant example**

5) Explain the difference between a **genotype** and a **phenotype** and give a pea plant EXAMPLE of each concept.

6) Summarize what happened when Mendel crossed true-breeding **yellow & round** pea plants with true-breeding **wrinkled and green** pea plants during his famous pea plant experiments? (see figure 9.5A)

First generation (F_1) results:

Second generation (F_2) results:

7) Explain Mendel's Law of Independent Assortment with a **pea plant example**

8) Compare and contrast 2 forms of fetal testing [**amniocentesis** vs **chorionic villus sampling (CVS)]** that allow physicians to diagnose various genetic conditions before birth.

	amniocentesis	**chorionic villus sampling (CVS**
fetus age when harvested		
type of fetal cells harvested		
Equipment used to harvest cells		

9) The genetic test for **Phenylketonaria** (PKU) is given to <u>all newborn babies</u> in the US. Summarize this condition below:

Cause	
Frequency	
Symptoms	
Treatment	

****

Directions: Review the assigned heredity reading by indicating whether each Heredity statement below is **T/F** and the **<u>textbook page</u>** where the answer can be found.

	Heredity Statements (Chapter 9)	<u>After</u> reading **T/F**	Textbook page
1	Mendel's Law of Segregation predicts that gametes after meiosis will only contain one allele for each inherited trait.		
2	A fetus that tests heterozygous for the HD mutation will live life as an unaffected carrier.		
3	Two advantages of CVS fetal testing is that they can be performed earlier in a pregnancy and the results obtained faster than with amniocentesis testing.		
4	The phenotype for a Cystic Fibrosis (CF) carrier is Ff.		
5	A testcross is used to determine the genotype for an organisms with a recessive phenotype		
6	If a geneticist knows the phenotype for every member in a 3-generation pedigree, then they can deduce the exact genotype for every person.		
7	After his famous dihybrid cross, Mendel determined that all the round, green peas had a Rryy genotype.		
8	All organisms that breed true for a trait are homozygous for that trait		
9	If a tall pea plant is crossed with a dwarf pea plant and 50% of the F1 generation are dwarfs, then the original dwarf parent was heterozygous		