Genetics

Answer Key

1. **Answer**: A.

Explanation: Law of independent assortment. The other is his law of segregation. According to the law of independent assortment, a pair of alleles will not encroach on other pairs of alleles during gamete formation. Put another way, how one character is inherited will have no effect on how other characters are inherited.

2. **Answer:** C.

Explanation: Sex-linked disorders affect the X and Y chromosomes which are the sex chromosomes of humans.

3. **Answer:** B.

Explanation: Wild-type and Mutants refer to traits as they would appear frequently in nature. Hunt Morgan introduced to us the concepts of **wild-type**, traits which are most common in nature, and **mutants**, less common traits. By mating wild-type fruit flies with mutants, he was able to observe offspring with varying combinations of characters from the parents.

4. **Answer:** C.

Explanation: Codominance differs from incomplete dominance as the genes which code for blood type AB are present in the individual as separate alleles while in incomplete dominance, the combination of alleles forms the phenotype that is a mix of characters of both parents. Imagine the former as oil mixed with water and the latter as when alcohol is mixed with water. Oil and water do not mix like the alleles for antigens A and B do not influence how the other is inherited.

5. **Answer:** D.

Explanation: An organism with two identical alleles of the same gene is homozygous while those with two different alleles are heterozygous.