Name _____ Date ___/____/____

GENETICS

Selective Breeding

Based on the tutorial: Selective Breeding

I. Underline the correct option.

Monohybrid and dihybrid cross studies of **(Gregor Mendel/Charles Darwin)** and the theory of evolution of **(Gregor Mendel/Charles Darwin)** led to many scientific insights and breakthroughs. One of them is **(random/non-random)** mating wherein phenotypes that are deemed as beneficial are propagated across generations. Breeders cross organisms with desirable traits so as to produce offspring that will carry the genes and express the desirable traits. This practice is called *selective breeding*. For many years, breeders have selectively bred plants and animals with desirable traits. For instance, they prefer to grow crops having a **(low/high)** growth rate and with **(increased/decreased)** resistance to certain diseases. Selective breeding is usually done by crossing two members of **(different/the same)** species possessing **(dominant/recessive)** alleles for particular genes. Then, they track and breed those that possess favorable qualities.

II. Write **True** on the blank before each number if the sentence is correct and **False**, if incorrect.

_____ 1. The offspring from a cross between two genetically dissimilar parents is referred to as a purebred.

_____ 2. The process of selecting parents is called natural selection.

_____ 3. Inbreeding depression occurs when some genes are phased out as a result of continuous, long-term inbreeding.

_____ 4. When many organisms end up having similar genomes due to constant inbreeding , genetic diversity increases.

_____ 5. Producing more heterozygous offspring is necessary to keep the genes of the species as diverse as possible.

_____ 6. The term " heterozygous" means the alleles of a particular gene inherited from the parents are identical or the same.

_____ 7. Selective breeding is the preferential breeding of organisms with desirable characteristics.

_____ 8. Continuous inbreeding of particular genes runs the risk of irreversibly losing some of the other genes from the gene pool.