

Name \_\_\_\_\_

Date \_\_\_\_\_ Per \_\_\_\_\_ Asst \_\_\_\_\_

## Punnett Squares Answer Key

1. According to Mendel's *Law of Segregation*, gene pairs separate and only one gene from each pair is donated to the egg or sperm.
2. The scientific name given to sex cells is *gametes*.
3. The process in which sex cells or gametes are produced is called *meiosis*.
4. During meiosis of a homozygous tall plant, sperm are produced containing a single *T* gene.
5. During meiosis of a heterozygous tall plant, sperm are produced containing a single *T* or a single *t* gene.
6. Scientists use a chart called a *Punnett Square* in order to show all of the possible outcomes of a genetic cross.
7. On the outside of the Punnett square, the *genotypes* of both parents are listed.
8. Above, and to the side of the chart, the possible *gametes/genes* donated by each parent are listed.
9. Inside each square, the combinations of *genotypes* produced by the union of the sperm and egg are listed.
10. In Mendel's first experiment, Mendel crossed a homozygous tall plant with a homozygous short plant. All resulting genotypes produced were *Tt*.
11. All offspring phenotypes produced during this first experiment were *tall*.
12. In Mendel's second experiment, two hybrid plants were crossed. The result of such a crossing results in plants with both *tall and short* phenotypes.