

## GENETICS WORKSHEET

### Introduction and Simple Dominant/Recessive (Monohybrid) crosses

1. For each genotype below, indicate whether it is heterozygous (Ht), Homozygous Dominant (HD) or Homozygous Recessive (HR)

Aa \_\_\_\_\_ Bb \_\_\_\_\_ bb \_\_\_\_\_ Hh \_\_\_\_\_ hh \_\_\_\_\_

Bb \_\_\_\_\_ Cc \_\_\_\_\_ cc \_\_\_\_\_ Ff \_\_\_\_\_ ff \_\_\_\_\_

2. For each of the genotypes below determine what phenotypes would be possible.

A. Purple flowers are dominant to white flowers.

PP \_\_\_\_\_ Pp \_\_\_\_\_ pp \_\_\_\_\_

B. Round seeds are dominant to wrinkled seeds

RR \_\_\_\_\_ Rr \_\_\_\_\_ rr \_\_\_\_\_

There are five basic steps to solving a heredity problem. They are

1. determine the genotype of each parent
2. determine all the possible gametes each parent can produce
3. determine all the possible offspring combinations that may result when these gametes combine
4. determine the phenotypes possible by analyzing the various genotypes
5. show all of your work and always be sure that you can explain your answers

### Determining Gametes

3. If an organism has the following genotypes, how many different types of sex cells can be produced?

AaBb \_\_\_\_\_ AaBBCCDd \_\_\_\_\_ AaBBCCdd \_\_\_\_\_

4. What are the possible gametes produced by individuals with the following genotypes?

AaBb \_\_\_\_\_ AaBBcc \_\_\_\_\_