

## Genetics Practice Problems Worksheet

1. For each genotype below, indicate whether it is heterozygous (~~He~~) or homozygous (~~Ho~~)

AA _____	Ee _____	Ii _____	Mm _____
Bb _____	ff _____	Jj _____	nn _____
Cc _____	Gg _____	kk _____	oo _____
DD _____	HH _____	LL _____	Pp _____

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

- |  |   |
|--|---|
| <p>a. Purple flowers are dominant to white flowers.</p> <ul style="list-style-type: none"> <li>• PP _____</li> <li>• Pp _____</li> <li>• pp _____</li> </ul> | <p>c. Brown eyes are dominant to blue eyes</p> <ul style="list-style-type: none"> <li>• BB _____</li> <li>• Bb _____</li> <li>• bb _____</li> </ul> |
| <p>b. Round seeds are dominant to wrinkled seeds.</p> <ul style="list-style-type: none"> <li>• RR _____</li> <li>• Rr _____</li> <li>• rr _____</li> </ul>   | <p>d. Bobtails in cats are recessive.</p> <ul style="list-style-type: none"> <li>• TT _____</li> <li>• Tt _____</li> <li>• tt _____</li> </ul>      |

3. For each phenotype below, list the **genotypes**

- |  |   |
|--|---|
| <p>a. Straight hair is dominant to curly.</p> <ul style="list-style-type: none"> <li>• ____ straight</li> <li>• ____ straight</li> <li>• ____ curly</li> </ul> | <p>b. Pointed heads are dominant to round heads.</p> <ul style="list-style-type: none"> <li>• ____ pointed</li> <li>• ____ pointed</li> <li>• ____ round</li> </ul> |
|--|---|

## Genotype and Phenotype Worksheet

Name \_\_\_\_\_

Characteristics:

1. Round seed dominant over wrinkled seed. (RR, Rr,rr)
2. Yellow seed dominant over green seed. (YY,Yy,yy)
3. Colored seed coat over white seed coat. (CC,Cc,cc)
4. Inflated pod over wrinkled pod. (II, Ii, ii)
5. Green pod over yellow pod. (GG,Gg,gg)
6. Axial flowers over terminal flowers. (AA,Aa,aa)
7. Long stem over short stem. (LL,Ll,ll)

I. Write the **genotypes** for each characteristic.

1. Round \_\_\_\_\_ wrinkled \_\_\_\_\_ (seed)
2. Yellow \_\_\_\_\_ green \_\_\_\_\_ (seed)
3. Colored \_\_\_\_\_ white \_\_\_\_\_ (seed coat)
4. Inflated \_\_\_\_\_ wrinkled \_\_\_\_\_ (pod)
5. Green \_\_\_\_\_ yellow \_\_\_\_\_ (pod)
6. Axial \_\_\_\_\_ terminal \_\_\_\_\_ (flower location)
7. Long \_\_\_\_\_ short \_\_\_\_\_ (stems)

II. Write the genotype for the alleles described.

1. a) Homozygous round seed \_\_\_\_\_.  
b) Heterozygous round seed \_\_\_\_\_.  
c) Wrinkled seed \_\_\_\_\_.
2. a) Homozygous yellow seed \_\_\_\_\_.  
b) Heterozygous yellow seed \_\_\_\_\_.  
c) Green seed \_\_\_\_\_.
3. a) Homozygous axial flowers \_\_\_\_\_.  
b) Heterozygous axial flowers \_\_\_\_\_.  
c) Terminal Flowers \_\_\_\_\_.

III. Write the **phenotype** for the alleles described.

1. RR \_\_\_\_\_
2. Rr \_\_\_\_\_
3. Yy \_\_\_\_\_
4. Yy \_\_\_\_\_
5. CC \_\_\_\_\_
6. Cc \_\_\_\_\_
7. Cc \_\_\_\_\_
8. II \_\_\_\_\_
9. Ii \_\_\_\_\_
10. gg \_\_\_\_\_

IV. Write whether 1-10 is **Homozygous** or **Heterozygous** for III.

