Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_

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 genotype below, indicate whether the dominant(d) or recessive (r) trait will show.

AA \_\_\_\_\_ Ee \_\_\_\_ Ii \_\_\_\_\_ Mm \_\_\_\_\_

Bb \_\_\_\_\_ ff \_\_\_\_ Jj \_\_\_\_\_ nn \_\_\_\_\_

Cc \_\_\_\_\_ Gg \_\_\_\_ kk \_\_\_\_\_ oo \_\_\_\_\_

DD \_\_\_\_\_ HH \_\_\_\_ LL \_\_\_\_\_ Pp \_\_\_\_\_

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

*White fur is dominant to blue fur.* FF \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Ff \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ff \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Blonde hair is dominant to red hair.* HH \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hh \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hh \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Brown hair is dominant blonde hair.* BB \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Bb \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ bb \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Purple flowers are dominant to white flowers.*

PP\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Pp\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

pp\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Brown eyes are dominant to blue eyes*

BB\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Bb\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

bb\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Bobtails in cats are recessive.*

TT \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Tt \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

tt\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. For each **phenotype** below, list the **genotypes** (remember dominant traits have 2 genotypes)

*Straight hair is dominant to Pointed heads are dominant to*

*curly round heads.*

\_\_\_\_\_\_\_\_\_\_\_ straight \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pointed

\_\_\_\_\_\_\_\_\_\_\_ curly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ round

5. Set up the Punnet squares for each of the crosses listed below.

*Round seeds are dominant to wrinkled seeds.*

RR x rr

|  |  |
| --- | --- |
|  |  |
|  |  |

What percentage of the

offspring will be round?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Genotypes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Phenotypes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
|  |  |
|  |  |

Rr x rr

What percent of the offspring

will be round?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Genotypes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Phenotypes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
|  |  |
|  |  |

RR x Rr What percent of the offspring will be round?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Genotypes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Phenotypes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
|  |  |
|  |  |

Rr x Rr What percent of the offspring will be round? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Genotypes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Phenotypes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. A TT (tall) plant is crossed with a tt (short plant). What percentage

of the offspring will be tall? \_\_\_\_\_\_\_\_\_\_\_

7. A Tt plant is crossed with a Tt plant. What percentage of the offspring will be short? \_\_\_\_\_\_

8. A heterozygous round seeded plant (Rr) is crossed with a homozygous round seeded plant (RR). What percentage of the offspring will be homozygous (RR)? \_\_\_\_\_\_\_\_\_\_

9. **In pea plants purple flowers are**

**dominant to white flowers**.

If two white flowered plants are cross, what percentage of their offspring will

be white flowered? \_\_\_\_\_\_\_\_\_\_\_\_\_\_