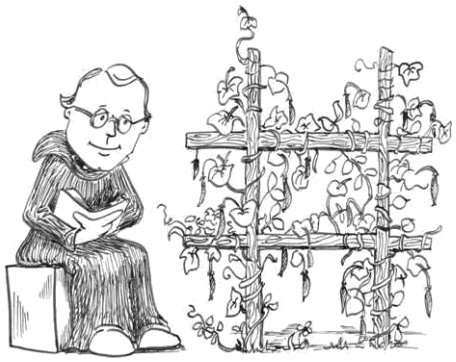

Intro to Genetics Problems

Name _____

In Mendel's pea plants, tall(T) is dominant to short (t), white(F) flowers are dominant to purple (f) flowers and round (R) seeds are dominate to wrinkled (r) seeds. .

Cross a heterozygous tall with a heterozygous tall.

Legend	Parents	Cross it	Offspring Genotype Possibilities	Offspring Phenotype Possibilities

Cross a homozygous white flower with a purple flower.

Legend	Parents	Cross it	Offspring Genotype Possibilities	Offspring Phenotype Possibilities

Cross a heterozygous round seed with a wrinkled one and list the results.

Legend	Parents	Cross it	Offspring Genotype Possibilities	Offspring Phenotype Possibilities

If 30 pea plants from this cross grew in Mendel's garden, how many would he expect to be wrinkled?

In chickens, white feathers (B) are dominant to brown feathers (b). Cross a homozygous white rooster with a brown hen and give the genotype and phenotype of the F1 generation.

Legend	Parents	Cross it	Offspring Genotype Possibilities	Offspring Phenotype Possibilities

Now cross a rooster from the offspring (F1 generation from the problem above) with a brown hen. Give the genotype and phenotypic ratios.

Legend	Parents	Cross it	Offspring Genotype Possibilities	Offspring Phenotype Possibilities

Beehive Blue Hair is a <u>recessive</u> disease that has plagued the city of Springfield for years. Marge Simpson has the disease, but her husband, Homer, does not. Homer's parents did not have the recessive gene.

Legend	Parents	Cross it	Offspring Genotype Possibilities	Offspring Phenotype Possibilities

What are the chances that their children will have the disease?

Do their children have a chance at passing the disease on to their kids?