







Punnet Square Practice Sheet

Use the table below to fill answer the questions .

SELECTED TRAITS IN CATS		
Trait	Dominant Allele	Recessive Allele
Coat length	Short hair (H) 	Long hair (h) 
Tabby stripes	Tabby (T) 	Stripeless (t) 
Colorpoint (markings on nose, ears, paws, and tail)	Normal (no colorpoint) (N) 	Colorpoint (n) 

Reminder:

- Genotype = letter combination
- Phenotype = Appearance
- Ratio = number of each type
- Homozygous = "same letter"
- Heterozygous = "different letter"
- Cross = To Mate to organisms

1. Write the genotype of a heterozygous Tabby Cat.
2. Write the genotype of a homozygous recessive individual for coat length.
3. Write the phenotype of a cat with the genotype Nn.
4. Perform the following cross: $Tt \times Tt$

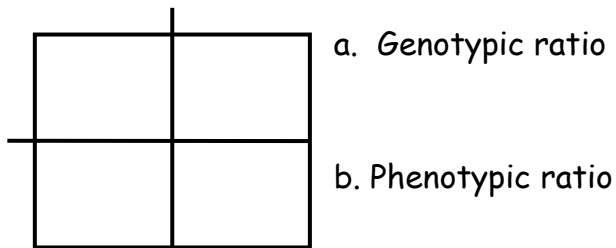
Cross the following cats and then fill in the ratios of the resulting kittens.

1. Heterozygous short hair x heterozygous short hair

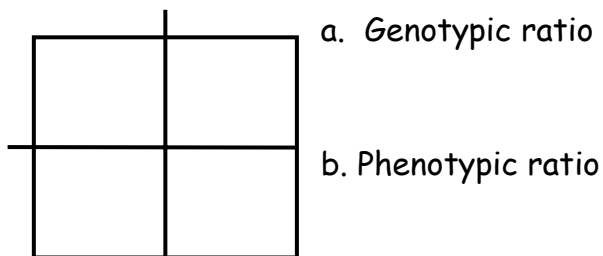
a. Genotypic ratio

b. Phenotypic ratio

2. Heterozygous short hair x homozygous long hair



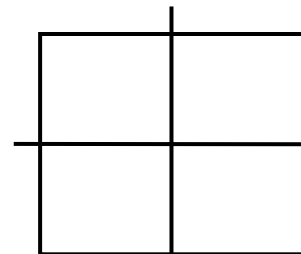
3. Homozygous colorpoint x Homozygous normal



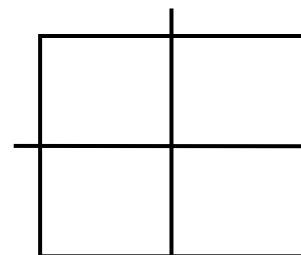
Lets try some in reverse.

For each of these, identify the genotype of the parents that would have produced the kittens that are described.

4. Two normal parents that produced a litter of 12 kittens: 3 colorpoint and 9 normal. What are the genotypes of the two parents?



5. One Tabby cat and one stripeless cat that had 4 tabby kittens and no stripeless kittens. What are the genotypes of the two parents?



6. One Long hair and one short hair cat that have 7 long hair and 6 short hair kittens. What are the genotypes of the two parents?

