

Incomplete Dominance/CoDominance Problems

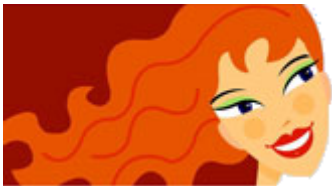
Name _____



1. Palm trees may produce long leaves, short leaves, or medium leaves. Each individual plant, however, only has leaves of one length according to the following rules:

Cross a medium-leaved palm tree with another medium-leaved palm. Draw a picture of what the offspring of this cross would look like. Also, explain why this is an example of a lack of dominance.

<u>Legend</u>	<u>Drawing</u>	<u>Parents</u>	<u>Cross it</u>	<u>Genotypic Ratio</u>	<u>Phenotypic Ratio</u>
$P^L P^L$ = long					
$P^L P^S$ = medium					
$P^S P^S$ = short					



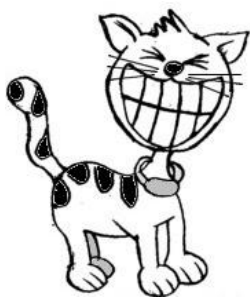
2. Wavy hair is the result of a heterozygous condition between straight hair ($H^S H^S$) and curly hair ($H^C H^C$). A man with straight hair is married to a woman with wavy hair. What proportion of offspring will have wavy hair? Straight hair? Curly hair?

<u>Legend</u>	<u>Drawing</u>	<u>Parents</u>	<u>Cross it</u>	<u>Genotypic Ratio</u>	<u>Phenotypic Ratio</u>

3. A brown haired guinea pig was crossed with a white guinea pig. The F1 were all cream haired. The F1 were crossed among themselves (Show this cross below). The F2 offspring from many litters was: 20 brown, 38 cream, 19 white.

<u>Legend</u>	<u>Parents</u>	<u>Cross it</u>	<u>Genotypic Ratio</u>	<u>Phenotypic Ratio</u>





4. A black cat and a white cat got their groove on and produced a litter of kittens that had black and white spots on their fur. What pattern of inheritance does this show? If a black-and-white spotted cat was crossed with a pure white cat, what results would the cat owner expect?

<u>Legend</u>	<u>Parents</u>	<u>Cross it</u>	<u>Genotypic Ratio</u>	<u>Phenotypic Ratio</u>

5. Roan (an even mixture of white and reddish hairs) is the result of the heterozygous condition of red and white hair color genes. Cross a roan bull with a white cow. What proportion of offspring will be white? Roan? Red?



<u>Legend</u>	<u>Parents</u>	<u>Cross it</u>	<u>Genotypic Ratio</u>	<u>Phenotypic Ratio</u>



6. The genes for flower color in carnations are $F^R F^R$ for red and $F^W F^W$ for white. The heterozygous condition results in a red AND white speckled flower. What proportion of offspring will be speckled if two speckled flowers are crossed?

<u>Legend</u>	<u>Parents</u>	<u>Cross it</u>	<u>Genotypic Ratio</u>	<u>Phenotypic Ratio</u>