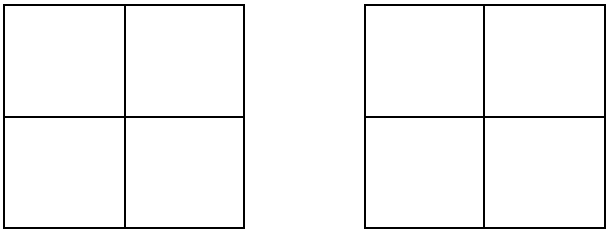
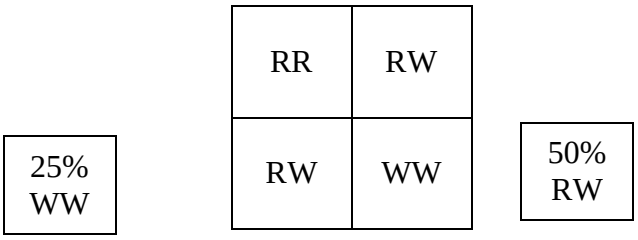
Class Notes *Complex Patterns Inheritance* **Questions/Main Idea:**	Name: _____ Period:_____ Date: _____ **Notes:**
Incomplete Dominance	Neither allele is dominant; heterozygote is a blend of phenotypes of the two homozygotes.
Practice incomplete dominance with Four O'Clocks (flowers)	In Four O'Clocks, the gene for red flowers (R) is incompletely dominant to the gene for white flowers (W). The heterozygous condition results in pink flowers. RR x WW RW x RW 
Codominance	<u>Both</u> alleles are dominant; expressed separately
Show the cross between two roan cows (use R and W). • What is the probability that two roan horses will have at least one roan offspring? • What is the probability that two roan horses will have a white offspring?	
Multiple alleles	More than 2 alleles possible for a trait • Example: Blood type in humans • Three alleles possible (A, B, and O), each person only has two of those alleles • Four phenotypes (blood types) possible: A, B, AB, and O • A and B are codominant; O is recessive • Alleles notated as I^A, I^B, i
Polygenic Traits	Trait is controlled by interaction between 2 or more genes – Examples: skin color, eye color, height, hair color – Results in a continuum of expressed phenotypes
Lethal Recessive Alleles	• Having two mutated copies of an essential gene may be deadly – E.g., Cystic Fibrosis, Sickle-cell Anemia, Tay-Sachs Disease • Heterozygote survivse because it has one nonmutated form of the gene • Heterozygote is carrier for disorder • Heterozyous condition is sometimes linked with beneficial traits – e.g., sickle cell carrier and malaria resistance

Summary: