CSS 350
Quiz #4: answers
Date: 2/9/01
true or false
1) Each locus on a chromosome is a gene.  ans- F
2) Alleles are alternative versions of the nucleotide sequence at a locus.  ans- T
3) If an allele is dominant to another allele, it will be dominant to all alleles at that locus.  
   ans F
Assume Y- plants have yellow seeds, yy plants have green seeds, R- plants have round seeds, 
and rr plants have wrinkled seeds.
4) There are 4 phenotypes in the testcross progeny of an F2 plant grown from a yellow, 
   round seed. What was the genotype of the F2 plant? (circle the correct answer below)
   a) YYRR
   b) YyRR
   c) YYRr
   d) YyRr  correct answer
5) A field of 100 pea plants has the following distribution of genotypes: 99 YY and 1 Yy. 
   What is the frequency of the 'y' allele in this population?
   a) 1/100
   b) 2/200
   c) 0
   d) 1/200  correct answer
6) A cross between two pure-breeding plants that differ in genotype at two loci is called a 
   __________ cross.  ans. dihybrid
7) A cross between a plant of uncertain genotype and a plant that is homozygous recessive 
   for the genes of interest is called a __________ cross.  ans. test
8) With __________ gene action, the F1 hybrid displays the traits of both parents.  ans: 
   co-dominance.
9) In snapdragon, petal color is controlled by alleles of a single gene. The F1 between a 
   pure breeding red petal plant and a pure-breeding white petal plant is pink. This type of 
   gene action is called ____________.  ans. partial dominance
Extra credit:
10) Two plants of unknown genotype are crossed. The F1 seeds include 32 yellow, wrinkled 
    seeds, and 9 green, wrinkled seeds. What were the likely genotypes of the two plants? 
    a) YYrr and Yyrr
    b) yyrr and YYrr
    c) Yyrr and YyRR
    d) Yyrr and Yyrr  correct answer