

GENETICS PRACTICE TEST

probability	homozygous	diploid
gametes (AaBb)	heterozygous	haploid
genotype	monohybrid crosses (1 trait)	Meiosis
phenotype	dihybrid crosses (2 traits)	allele
dominant	incomplete dominance (codominance)	Hardy-Weinberg
recessive	sex-linked traits	equation

You roll a die five times and get the following results: 1, 1, 1, 3, 1. What is the probability that you will get a 1 on your next roll?

ROUND SEEDED (R) is dominant to wrinkled seeded (r)

What is the genotype of a heterozygous plant?

What is the genotype of a homozygous round-seeded plant?

What is the phenotype of a plant with one dominant and one recessive gene?

What is the phenotype of a plant with two dominant genes?

Cross a plant with wrinkled seeds with a plant that is heterozygous for round seeds (show punnett).

Give the phenotypes and fractions for above

How many alleles for each trait are found in a gamete?

IN JAPANESE FOUR-O'CLOCK FLOWERS, the gene for red (R) is **incompletely dominant (codominant)** to the gene for white (r) and the heterozygous individuals are pink. A gardener seeking prizes at the upcoming Home and Garden show crosses a red J. Four-o'clock with a white one.

Give the expected genotypes and fractions. (Number and show your punnett on back.)

Give the expected phenotypes and fractions.

IN ROCK CORNISH GAME FOWL, Red feathers (R) is dominant to white feathers (r) and **(dihybrid)** the gene for a crested comb (C) is dominant to a plain comb (c).

Give the genotype for a homozygous red, heterozygous crested fowl.

Give the genotype for a white, plain fowl.

If all of the offspring are RrCc, what are the genotypes of the two parents?

Give four different genotypes for fowls that would be red with crests.

Give the phenotype of this individual....rrCC.

CROSS A PARENT WITH AB bloodtype with a parent with O bloodtype.

Give the genotypes and fractions of their children.

Give the phenotype and fractions.

SEX-LINKED TRAIT A white-eyed male fruit fly mates with a female who carries the gene for white eyes, but who has red eyes.

Give the genotype of the father.

Give the genotype of the mother.

What are their chances of producing a white-eyed baby boy fly?

Maple Syrup Urine Disease affects 1/176 Old Order Mennonites of Pennsylvania. What percent of the people in this population are carriers of this gene?

List four differences between Mitosis and Meiosis.