

# Heredity and Traits Quiz 105

- 1) What are traits?
- 2) What is heredity?
- 3) What determines the traits of the offspring?
- 4) In general, how many genes determine a trait?
- 5) What is a Punnett Square?
- 6) For pea plants, the tall gene (T), is dominant. The short gene (s) is recessive. Suppose a Ts hybrid is crossed with an ss pure short parent.
  - a) Write down the Punnett square.
  - b) Which offspring is homozygous. (give the genotype)
  - c) Which offspring is heterozygous. (give the genotype)
  - d) What percentage of the offspring will be short?
  - e) What is the phenotype for the Ts offspring?
- 7) Give an example of a dominant gene for humans.
- 8)a) What are the two sex chromosomes? \_\_\_\_ and \_\_\_\_ .

b) Which of the two sex chromosomes is contained in the egg?

\_\_\_\_ .

c) Which of the two sex chromosomes is contained in the sperm?

\_\_\_\_ or \_\_\_\_ .

9)a) What is a mutation?

b) Give an example for humans.

10) Explain why fruit flies are useful to scientists for genetics studies.

Answers: 1) They are characteristics., 2) It is the study of inherited traits., 3) The genes (DNA) determine traits., 4) Two. One from each parent., 5) It is a square which shows all of the combinations for the two genes from each parent., 6)a)

	T	s
s	Ts	ss
s	Ts	ss

b) ss, c) Ts, d) 50%, e) tall, 7) brown eye color, left thumb on top during hand clapping, 8)a) x, and y., b) x, c) x or y, 9)a) It is a change in the gene structure., b) color blindness, hemophilia, 10) They reproduce quickly and have just 4 pairs of chromosomes.