



Class 10 Science | Heredity

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. A trait expressed in a heterozygote is called:

- A. Acquired
- B. Dominant
- C. Non-heritable
- D. Recessive

2. For T dominant over t, the genotype of a pure tall pea plant is:

- A. tt
- B. TT
- C. Tt
- D. T only

3. Crossing TT with tt gives offspring that are all:

- A. Tt
- B. TT
- C. tt
- D. TT and tt equally

4. In Tt × Tt, the expected fraction of dwarf plants is:

- A. 1/4
- B. 3/4
- C. 1
- D. 1/2

5. The genotypic ratio in Tt × Tt is:

- A. 1 TT : 2 Tt : 1 tt
- B. All Tt
- C. 3 TT : 1 tt
- D. 1 TT : 1 Tt

6. A tall Tt plant crossed with tt gives a tall:dwarf ratio of:

- A. 1:3
- B. 1:1
- C. 3:1
- D. All tall

7. A recessive trait appears when the genotype is:

- A. Heterozygous only
- B. Homozygous dominant
- C. Homozygous recessive
- D. Any genotype

8. A gamete from a Tt plant carries:

- A. Neither allele
- B. Both T and t
- C. Only T always
- D. Either T or t

9. Genes influence visible traits primarily by controlling:

- A. Only food availability
- B. Protein production
- C. Only body water
- D. The number of limbs directly without cell processes

10. A scar caused by an injury is generally not inherited because it:

- A. Changes every chromosome
- B. Does not alter germ-cell DNA
- C. Creates a dominant allele
- D. Always affects gametes

11. In humans, a typical ovum carries which sex chromosome?

- A. Both X and Y
- B. Y
- C. Either X or Y equally
- D. X

12. A typical human sperm may carry:

- A. Both X and Y together
- B. X or Y
- C. Only X
- D. Only Y

13. Under the usual XX-XY model, an XY zygote develops as:

- A. Female
- B. Male
- C. Always infertile
- D. Neither sex can develop

14. In the usual XX-XY model, the probability of an XX child at each conception is approximately:

- A. 1
- B. 1/2
- C. 3/4
- D. 1/4

15. Two parents both show a dominant trait but have a recessive child. Their genotypes must be:

- A. Both heterozygous
- B. One homozygous dominant and one heterozygous
- C. Both homozygous recessive
- D. Both homozygous dominant

ANSWER KEY — check after completing all 15 questions

1.B 2.B 3.A 4.A 5.A 6.B 7.C 8.D 9.B 10.B 11.D 12.B 13.B 14.B 15.A