Genotypes and phenotypes

1 In a species of rodent, the allele for black fur is dominant to the allele for brown fur.

 a Suggest suitable symbols for these two alleles:

 i allele for black fur ………………………………………….

 ii allele for brown fur ………………………………………….

 b Write the genotype of an animal that is homozygous for brown fur.

 ………………………………………………………………………………………...

 c Write the genotype of a heterozygous animal.

 ………………………………………………………………………………………...

2 In a type of plant, homozygous individuals can have white flowers or red flowers. Heterozygous individuals have red flowers.

 a Choose symbols to represent the two different alleles involved in flower colour.

 ………………………………………………………………………………………...

 b Which allele is dominant? Explain how you worked this out.

 ………………………………………………………………………………………...

 ………………………………………………………………………………………...

 c Draw a table to show the three possible genotypes and the phenotypes that each of them produces.

3 In a species of fly, there are two alleles for wing size. Allele F, which is dominant, produces full-size wings, while allele f produces small wings.

 a What is the phenotype of a heterozygous fly? …………………………………….

 b What is the genotype of a fly with small wings? …………………………………….