

Solutions

Each answer shows the steps, then the **result**.

2.1

- A blend of the two (e.g. pink)

2.2

- Type AB — both the I^A and I^B alleles are fully expressed (codominance)

2.3

- Males have only one X chromosome, so a single recessive allele is expressed (no second X to mask it)

3.1 C

- codominance

3.2

(a)

- $RW \times RW$ gives $1 RR : 2 RW : 1 WW = 1 \text{ red} : 2 \text{ pink} : 1 \text{ white}$

(b)

- The heterozygote (pink) is a distinct phenotype, so there are three phenotypes (1 : 2 : 1) instead of two (3 : 1)

3.3

- The mother carries one color-blind X allele; she can pass that X to her son, and since he has only one X (from her), he will be color-blind