

Foundation Separate version — Higher Tier (★) questions removed.

Q1. Two carrier parents (Ff) cross. Use a Punnett square to calculate the probability of an affected child (ff).

[3 marks]

Q2. Explain the difference between a carrier and an affected individual for a recessive disorder.

[3 marks]

Total: 6 marks

Q1 (3 marks)

Two carrier parents (Ff) cross. Use a Punnett square to calculate the probability of an af...

- Punnett square: FF, Ff, Ff, ff [1]
- 25% / 1 in 4 probability of ff (cystic fibrosis) [1]
- 50% carriers (Ff) [1]

Q2 (3 marks)

Explain the difference between a carrier and an affected individual for a recessive disord...

- Carrier: heterozygous (Ff) — has one faulty allele but NOT the condition [1]
- Affected: homozygous recessive (ff) — two faulty alleles, has the condition [1]
- Carrier can pass faulty allele to offspring undetected [1]