

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

**Q1. Explain how biological sex is determined in humans.**

[2 marks]

---

---

---

**Q2. Use a genetic cross diagram to show the expected ratio of male to female offspring.**

[3 marks]

---

---

---

---

---

---

---

---

---

**Total: 5 marks**

**Q1 (2 marks)**

*Explain how biological sex is determined in humans.*

- Females: XX sex chromosomes; males: XY sex chromosomes [1]
- Eggs always carry X; sperm carry either X or Y — sex of child depends on which sperm fertilises the egg [1]

**Q2 (3 marks)**

*Use a genetic cross diagram to show the expected ratio of male to female offspring.*

- Father XY: gametes X and Y; mother XX: gametes X and X [1]
- Cross: XX and XY (two female, two male outcomes) [1]
- 50% male : 50% female — 1:1 ratio [1]