Name_____ Student #_____

Part 2. SHORT ANSWER. Write your answer in the space provided. (1 question with parts worth 4 marks total). Write using complete sentences.

18) In a three-point testcross, it was found that the genetic map for three linked genes was A-----20cM------B------10cM-----C.

a) If a cross was performed to estimate the map distance between genes A and C only, how would this distance compare to the sum of the distances A-B and B-C? Explain why. (2 marks)

Answer: A-C will be less than A-B plus B-C (**1 mark**), because double recombinants are missed with the more distant markers (**1 mark**).

b) Further studies revealed that in 1000 progeny, 1 double recombinant was observed. How does this compare to what we expect, and what is this genetic phenomenon called? (2 marks)

Answer: We would normally expect 20 double recombinant progeny OR this number is less than what we would expect (**1 mark**), and this genetic phenomenon is called interference (**1 mark**).

Appendix: Figure and Tables

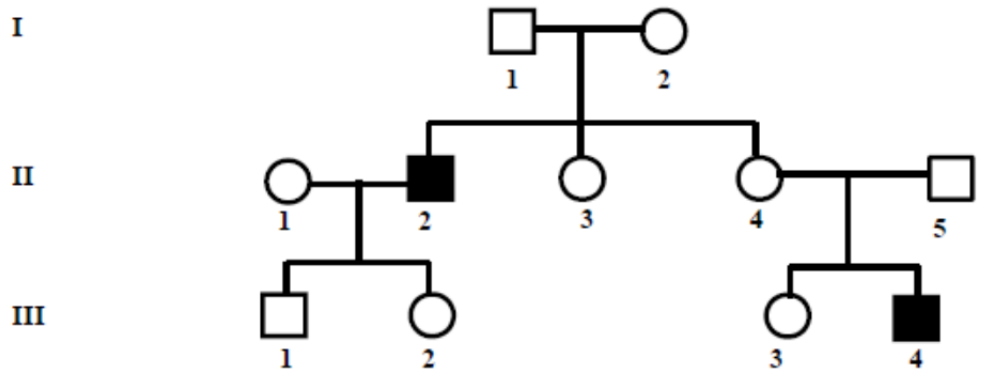

Figure 1 – Pedigree for the Tyler family

Name_____ Student #_____

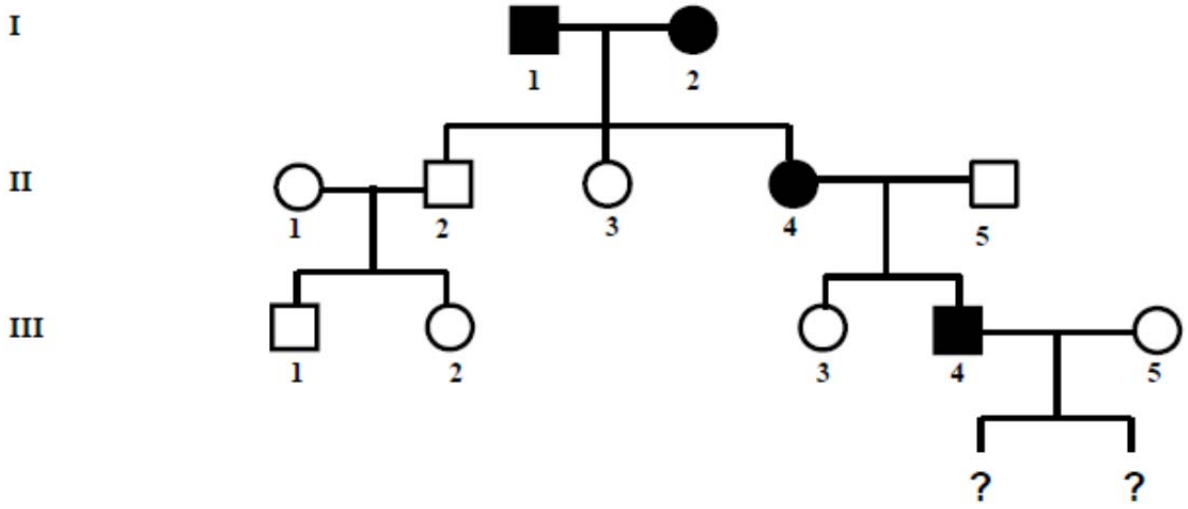

Figure 2 – Pedigree for the Morgan family

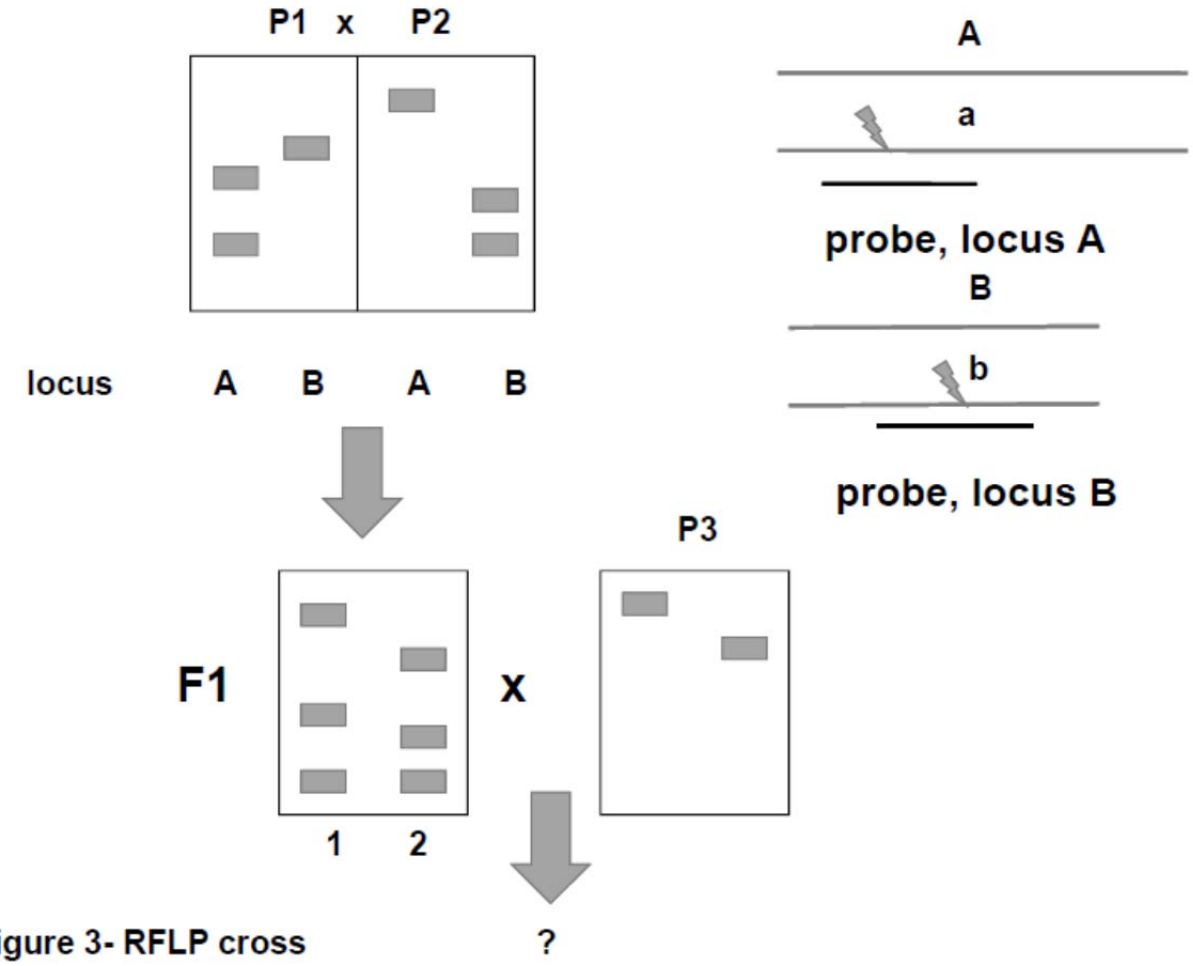

Figure 3- RFLP cross