Relationships

If $P(A \cap B) = P(A) \times P(B)$ then A & B are independent
ie The occurrence of 'B' does not effect event 'A'

If $P(A \cap B) > P(A) \times P(B)$ then there is a positive association between events A and B ie The occurrence of 'B' increases the chance of event 'A' (and vice versa – whatever seems logical)

If $P(A \cap B) < P(A) \times P(B)$ then there is a negative association between events A and B ie The occurrence of 'B' decreases the chance of event 'A' (and vice versa)

1) P(Rain) = 0.35 P(Mtb crash) = 0.4 P(crash in rain) = 0.18
What association is there?

2) P(Late) = 0.15 P(Late and Withdrawn) = 0.1 P(neither happening) = 0.82
What association is there?

3) Trip to the dairy. The probability of buying drink is 0.56 The probability of buying food is 0.45 and the probability of needing both is 0.33
What association is there?

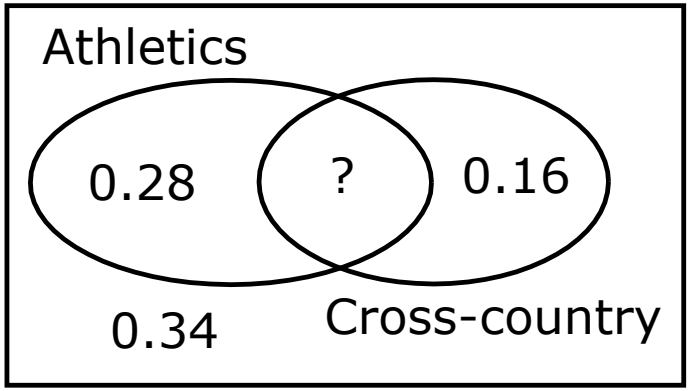
Using Two-way tables & Venn Diagrams

	Own a Car	**Not**
Drivers License (Any)		
None		

1) What association is there between having Drivers license and owning a car?

2) What association is there between gender and Traffic infringement? (any ticket including parking)

	Female	**Male**
Traffic Infringement		
None		



3) What association is there between involvement in Athletics and Cross-country?