

**Probability and Statistics for Psychology
and Quantitative Methods for Human Sciences
Exercise Sheet 2 - Probability I**

1. Write down the Addition and Multiplication Laws of probability. Give an example of each.
2. An ordinary pack of 52 playing cards has cards in 13 values (2, 3, 4, 5, 6, 7, 8, 9, 10, jack, queen, king, ace), each in 4 suits (clubs, diamonds, hearts, spades). The seven of diamonds has been lost. A card is dealt from the well-shuffled pack. Find the probability that it is (a) a diamond, (b) a queen, (c) a diamond or a queen, (d) a diamond or a seven.
3. The probability a student in a class has blue eyes is 0.37. The probability a student in a class has a bike is 0.2. The probability a student in a class has a bike or blue eyes is 0.45. What is the probability that a student has both a bike and blue eyes?
4. A bag of sweets contains 4 red and 5 green sweets. A child picks out 3 sweets and eats them one after the other. What is the probability that the first one is red, the second is green and the third is red.
5. Consider the experiment of tossing two dice. Let A denote the event of an odd total, B the event of an ace on the first die, and C the event of a total of seven.
 - (a) Are A and B independent?
 - (b) Are A and C independent?
 - (c) Are B and C independent?

Exam Paper Questions The table below lists past exam paper *question numbers* that involve probability calculations (useful for revision/tutorials).

	Human Sciences	Psychology		
Year	TT	MT	HT	TT
2001	1	-	8	1
2000	1	1	2	1
1999	1	1	2	1
1998	2	-	2	2
1997	2	-	2	2