

**Harder GCSE probability:** Name \_\_\_\_\_  
 You may wish to draw a tree diagram to help!

The table below shows information about students at a school. Some are right handed and some are left handed. There are 80 pupils in the sample.

	LH	RH	Total
Boy		31	
Girl			33
Total	31		

- (i) Complete the table  
 (ii) What is the probability a student chosen from random is (a) a boy (b) a right handed girl (c) not a left handed girl?  
 (iii) Two pupils are taken from the class. What is the probability that (c) both were boys (d) both were Left handed (e) both were right handed?  
 (iv) There are 1600 pupils in the school. How many would you expect to be (f) boys, (g) not right handed?

The probability that it rains is 0.3. The probability its cold is 0.4 on any given day. Mike looks outside one morning. What is the probability (i) it's not raining? (ii) Its raining and cold?  
 Mike looks outside his window every morning for 3 days. What is the probability (a) It rains on all 3 days? (b) Its not cold on all 3 days?

John has some counters in a bag. There are 3 yellow, 5 black and 4 red.  
 He takes one out. Notes the colour and replaces it.  
 What is the probability (i) He picks a yellow? (ii) He doesn't pick a black? (iii) He picks a blue?  
 John now takes 2 counters out one after another and replaces them each time.  
 What is the probability the two counters were (a) black (b) not black (c) both the same colour?

If a football team wins a game of football. The probability the win the next is 0.4. If the team lose the last game the probability they lose the next is 0.3.  
 Given that the team won their last match what is the probability they (i) win the next 2 and (ii) lose the next 2? (Be careful!!)

Sue counts cars outside her house one morning. The probability of seeing a red car was 0.2, the probability of seeing a black car was 0.3, the probability of seeing a silver car was 0.1 and the probability of seeing a blue car was 0.2.  
 (a) What is the highest the probability could be of seeing a green car?  
 (b) If 600 cars passed the next day how many would you expect to be red?  
 (c) Work out the probability that if 3 cars passed one after the other none of them were silver?

Write an algebraic statement to show the probability of tossing 'n' heads ones after another on a fair coin.

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