



Tree Diagrams

- 1 Three cards numbered 1, 2 and 3 are placed in a hat.
 - a How many different two-digit numbers would it be possible to form by randomly selecting two cards ?
 - b Use a tree diagram to list all the possible numbers?
 - c What is the probability that the two digit number formed is even?
- 2 A coin is tossed three times. Use a tree diagram to find the probability in favour of the event
 - a one head and two tails in any order.
 - b three heads or three tails
 - c a least one tail
- 3 A tennis team of four players Arthur, Betty Cathy and Dennis select a captain and vice captain:
 - a List all the possibilities?
 - b What is the probability that Arthur will be either captain or vice-captain
- 4 Use a tree diagram to find the sample space for the composition of a family of 3 children. For such a family what is the probability of
 - a 3 girls?
 - b 2 boys and 1 girl ?
 - c the eldest child being a girl?
 - d the youngest child being a boy?
- 5 A drawer contains 2 blue and 2 red pens. If the pens are identical, what is the probability if two are chosen without looking, that they are both red?
- 6 Three books are on a shelf . One book has a red cover and the other two have green covers. If two books are selected by chance what is the probability the red book is included in the selection?
- 7 Five jelly beans are in a bowl. Four are red and one is black. If two are selected at random, what is the probability that the black one is in the pair selected?
- 8 A bag contains 3 red an 2 black marbles, One marble is drawn at random and not replaced. Then a second marble is drawn. Find the probability that
 - a) 2 red are drawn
 - b) a black is drawn followed by a red
 - c) the selection contains a red and a black