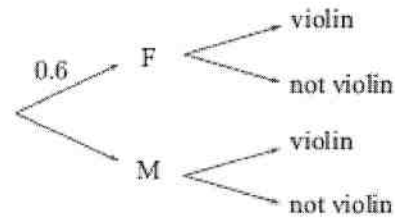
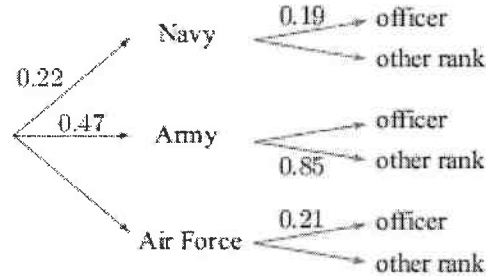


1. Of the students in a class playing musical instruments, 60% are female. 20% of the females and 30% of the males play the violin.

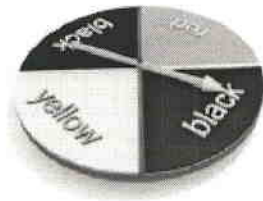


- a Copy and complete the tree diagram.
 b What is the probability that a randomly selected student:
 i is male and does not play the violin
 ii plays the violin?

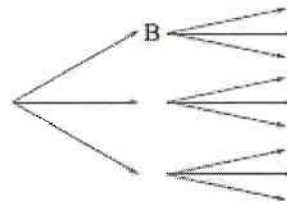
2. a Copy and complete this tree diagram about people in the armed forces.
 b What is the probability that a member of the armed forces:
 i is an officer
 ii is not an officer in the navy
 iii is not an army or air force officer?



3. Suppose this spinner is spun twice.



- a Copy and complete the branches on the tree diagram shown.

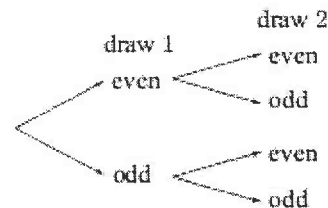


- b Find the probability that black appears on both spins.
 c Find the probability that yellow appears on both spins.
 d Find the probability that different colours appear on the two spins.
 e Find the probability that black appears on either spin.

4. Jar A contains 2 white and 3 red discs. Jar B contains 3 white and 1 red disc. A jar is chosen at random by the flip of a coin, and one disc is taken at random from it. Determine the probability that the disc is red.

5. 5 tickets numbered 1, 2, 3, 4, and 5 are placed in a bag. Two are taken from the bag without replacement.

- a Complete the tree diagram by writing the probabilities on the branches.
 b Determine the probability that:
 i both are odd
 ii both are even
 iii one is odd and the other even.



6. Sally draws a card from a standard deck and puts it in front of herself, Jason draws a card from the same deck immediately after Sally and the card in front of himself, last Louie draws a card from the same deck and puts his card in front of himself. What is the probability that they each drew a heart? Make a tree diagram to show your work.

7. Two marbles are drawn in succession from a box containing 2 purple and 5 green marbles. Determine the probability that the two marbles are different colours if:
 a the first is replaced
 b the first is *not* replaced.