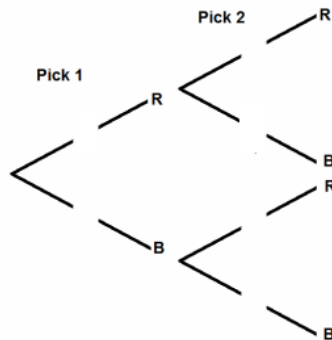


Q1 - INDEPENDENT EVENTS

In a bag there are 2 Red balls and 5 Blue balls. A ball is taken it out of the bag at random (Pick 1), its colour noted & then replaced. This process is repeated (Pick 2).

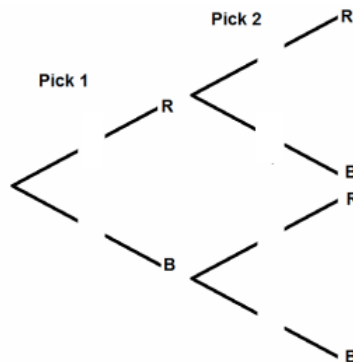
Complete the Probability Tree below



Q2 - CONDITIONAL EVENTS

In a bag there are 2 Red balls and 5 Blue balls. A ball is taken it out of the bag at random (Pick 1), its colour noted & NOT replaced. This process is repeated (Pick 2).

Complete the Probability Tree below



Q3 Draw a probability tree for each scenario – YOU CAN MAKE UP PROBAILITY QUESTIONS FOR EACH TOO!

- a) Fred has a bag of counters. There are 6 black and 4 white counters. He picks one at random, notes its colour and replaces it. He puts the counter back in the bag and repeats this.
- b) Janet plays one game of darts and one game of pool. The events are independent. The probability that she wins at darts is 0.4 the probability that she wins at pool is 0.2
- c) In a box of chocolates there are 13 mint and 9 toffees. Bob picks one sweet, eats it and then picks another and eats it.
- d) Helen has a bag of 11 balls. 6 of the balls are yellow and the rest are red. She picks one at random, notes its colour and replaces it. She repeats this once.
- e) Fred can either walk to school or not. Fred can either get the bus home from school or not. The probability of him walking to school is $\frac{1}{6}$ and the probability of him getting the bus home is $\frac{1}{4}$. The two events are independent.
- f) Abdul is taking his driving test. There are two parts, theory and practical. The probability of him passing his theory is 0.8 and the probability of him passing his practical is 0.7. the events are independent.
- g) In a bag there are 8 counters. 3 counters are black and the rest are white. Fred takes 3 at random and doesn't replace any of them.
- h) James works in a factory. He checks bolts for defects. The probability of a bolt being defective is 0.01. He picks two bolts out of a box at random to check them.
- i) In a box there are 12 chocolates. 6 are mint, 2 are toffee and the rest are coffee. Julie picks one, eats it and then picks another.
- j) Terry flips a fair coin 3 times in a row.