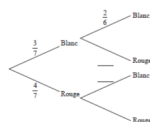


IB Statistics and Probability Problem 005

Bag A contains three white balls and four red balls.

Two balls are chosen at random without replacement.

- A.
- i. Copy and complete the following tree diagram. (Do not write anything on this page.)



- ii Find the probability that two white balls are chosen.

Bag B contains four white balls and three red balls.

When two balls are chosen at random without replacement from bag B , the probability that they are both white is $\frac{2}{7}$.

A standard die is rolled. If a 1 or 2 is obtained, two balls are chosen at random without replacement from bag A , otherwise they are chosen from bag B .

- B. Find the probability that both balls are white.
- C. Given that both balls are white, find the probability that they were chosen from bag A .