Answer on Question #83287 – Math – Statistics and Probability

Question

Two marbles are drawn in succession from a box containing 10 black, 30 green, 20 purple and 15 yellow marbles, with no replacement being made after each drawing. Find the probability that neither is yellow.

a. 65/77

b.118/165

c. 132/201

d. 201/403

Solution

Let event A be that the first ball pulled out of the box is not yellow. Then

$$P(A) = \frac{60}{75} = \frac{4}{5}.$$

Event B means that the second ball is not yellow either:

$$P(B) = \frac{59}{74}$$

The probability that both events A and B will occur is equal to:

$$P = P(A) \cdot P(B) = \frac{4}{5} \cdot \frac{59}{74} = \frac{236}{370} = \frac{118}{185}$$

Answer: The probability that both balls will not be yellow is equal to b. $\frac{118}{185}$.