Suppose you have a bag containing the following
32 red beads
18 white beads
12 black beads
24 yellow beads
8 pink beads..
Suppose you draw 2 beads out of the bag without replacement. Find the probability of drawing a white bead and then a black bead.

Solution

Total beads $32 + 18 + 12 + 24 + 8 = 94$

Drawing a white bead $P(w) = \frac{18}{94} = \frac{9}{47}$

Total beads without replacing first bead= 93.

Drawing a black bead $P(b) = \frac{12}{93} = \frac{4}{31}$

So the probability of drawing a white bead and then a black bead

$$P(wb) = P(w)P(b) = \frac{9}{47} * \frac{4}{31} \approx 0.0247$$

Answer: 0.0247.