

A bag contains 3 red marbles, 5 yellow marbles and 6 orange marbles. Three marbles are drawn and NOT replaced each time. Determine the probability of drawing three yellow marbles in a row. State whether the events are dependent or independent.

Sum of marbles:

$$3 + 5 + 6 = 14$$

First – yellow marble:

$$\frac{5}{14}$$

Second – yellow marble:

$$\frac{4}{13}$$

Third – yellow marble:

$$\frac{3}{12}$$

The probability of drawing three yellow marbles in a row:

$$\frac{5}{14} * \frac{4}{13} * \frac{3}{12} \approx 0.0275$$