Three balls are drawn from a box containing 6 red marbles, 4 white marbles and 5 blue marbles. Find the probability that they are drawn in the order: red, white, and blue if each ball is drawn with replacement.

a. 8/225
b. 1/225
c. 4/225
d. 6/225

Total amount of balls:

$$6 + 4 + 5 = 15$$

The probability that the first one will be red:

$$\frac{6}{15}$$

Each ball is drawn with replacement that is why the probability that the second ball will be red:

$$\frac{4}{15}$$

Last one will be blue:

$$\frac{5}{15}$$

The probability that they are drawn in the order: red, white, and blue

$$\frac{6}{15} \cdot \frac{4}{15} \cdot \frac{5}{15} = \frac{2 \cdot 4}{15^2} = \frac{8}{225}$$

<u>Answer</u>: a)