

You draw four marbles, *with replacement*, from an urn containing two blue marbles and three yellow marbles.

1. On average, how many blue marbles do you expect to draw?
Allow non-integer values.
2. Let the random variable X be the number of blue marbles in four draws. Determine $P(X = 2)$.
3. Determine the probability distribution function f and graph it. Based on your graph, give about what you think $E(X)$ is.
4. Calculate $E(X)$.