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Homework 19

(1) (a) 11 times

$$(b) \left(\frac{5}{6}\right)^{10} \rightarrow 1 - \left(\frac{5}{6}\right)^{10} = 0.83849$$

$$(c) 1 - \left(\frac{5}{6}\right)^n$$

$$(2) \binom{n}{k} = \frac{n!}{k!(n-k)!}$$

In this formula, as we select more objects, the number of total objects (even by one). We then can multiply all of them together using the product rule of probability

$$(3) \binom{n}{k} p^k (1-p)^{n-k}$$

We can see that the probability of finding k heads is shown as " p " and is multiplied by k times. The remaining bunch of flips would be denoted as $k-1$, which is for $(p-1)$, which is for tails.