

**FOR REFERENCE, NO QUESTIONS ON THIS PAGE**

If  $X \sim \text{Bin}(n, p)$ , then

$$P(X = k) = \binom{n}{k} p^k (1-p)^{n-k}, \quad k = 0, \dots, n$$

If  $X \sim \text{Geom}(p)$ , then

$$P(X = k) = (1-p)^{k-1} p, \quad k = 1, 2, 3, \dots$$