

BINOMIAL CHEET SHEET

<u>WORDS</u>	<u>VALUES</u>	<u>PROB NOTATION</u>	<u>CALC</u>
no directional keyword "exactly k "	$0 \dots \textcircled{k} \dots n$	$P(X = k)$	$\text{binompdf}(n, p, k)$
"at most k " "less than or equal to k " "no more than k " " k or fewer" "does not exceed k "	$0 \dots \textcircled{k} \dots n$	$P(X \leq k)$	$\text{binomcdf}(n, p, k)$
"at least k " "greater than or equal to k " "no less than k " " k or more"	$0 \dots k-1 \dots \textcircled{k} \dots n$	$P(X \geq k)$ $= 1 - P(X \leq k-1)$	$1 - \text{binomcdf}(n, p, \underline{k-1})$
"less than k " "below k "	$0 \dots \underline{k-1} \dots k \dots n$	$P(X < k)$ $= P(X \leq \underline{k-1})$	$\text{binomcdf}(n, p, \underline{k-1})$
"more than k " "above k " "exceeds k "	$0 \dots k \dots \textcircled{k+1} \dots n$	$P(X > k)$ $= 1 - P(X \leq k)$	$1 - \text{binomcdf}(n, p, \underline{k})$

Notes: • We do $1 - \text{cdf}$ when we circle the right side (i.e. $>$, $\geq$ questions).

• Draw the list of values to VISUALIZE!