Choosing whether to use binompdf or binomcdf

The following tables are binomial probability distributions for which **n = 6** and **p = 0.65**
The desired probabilities are highlighted.

PDF

Find the probability of *exactly* **2** favorable outcomes.

$$P (x = 2) = \text{binom\textbf{pdf}} (6, 0.65, 2) = 0.0951021094$$

x	0	1	2	3	4	5	6
P(x)	.0018	.0205	.0951	.2355	.3280	.2437	.0754

CDF

Find the probability of *less than* **3** favorable outcomes.
Find the probability of *at most* **2** favorable outcomes.   Both of these mean *two or less*.

$P(x < 3) = P(x \# 2) = P(x=0) + P(x=1) + P(x=2) = \text{binom\textbf{cdf}} (6, 0.65, 2) = 0.1174239063$

x	0	1	2	3	4	5	6
P(x)	.0018	.0205	.0951	.2355	.3280	.2437	.0754

CDF

Find the probability of *more than* **2** favorable outcomes.
Find the probability of *at least* **3** favorable outcomes.   Both of these are the *complement of two or less.*

$P(x > 2) = P(x \$ 3) = \textbf{1} - P(x \# 2) = \textbf{1} - \text{binom\textbf{cdf}} (6, 0.65, 2) = 0.8825760937$

x	0	1	2	3	4	5	6
P(x)	.0018	.0205	.0951	.2355	.3280	.2437	.0754

* Remember that the cumulative sum of ALL probabilities is ONE :

$$P(x=0) + P(x=1) + P(x=2) + P(x=3) + P(x=4) + P(x=5) + P(x=6) = \textbf{1}$$