Example 2

We computed earlier: flip 3 coins, let X be the number of heads. Then

k	0	1	2	3
$P(X = k)$	1/8	3/8	3/8	1/8

Then

$$\mathbb{P}(X \leq 2) = 1/8 + 3/8 + 3/8 = 7/8.$$

More generally

- If we know the distribution of a random variable X, and $Q \subseteq \mathbb{R}$,

$$\mathbb{P}(A \in Q) = \sum_{k \in Q} \mathbb{P}(X = k).$$

- (This is because if $k \neq l$, then $\{X = k\} \cap \{X = l\} = \emptyset$.)