EXAMPLE: Two standard, fair dice are rolled.
Let $X= \begin{cases}1 & \text { if sum is } 7 \\ 0 & \text { otherwise }\end{cases}$
pm: $\quad p(0)=\frac{5}{6}=p(x=0)$

$$
p(1)=\frac{1}{6}=P(x=1)
$$

|  | 1 | 2 | 3 | 4 | 5 | 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |

cdf: $F(x)=P(X \leq x)$


$$
\begin{aligned}
& F(0)=\frac{5}{6}=P(X \leq 0) \\
& F(1)=1=P(X \leq 1)
\end{aligned}
$$

