Probability Mans Function (PMF)

) aka the man of a discrete RV, defines that
the probability of a RV with discrete value
is exactly equal to some value.

$$X = \{x_1, x_2, x_3, ...\}$$

or
$$X = {}^{1}k$$
 where $k = 1, 2, 3, ...$

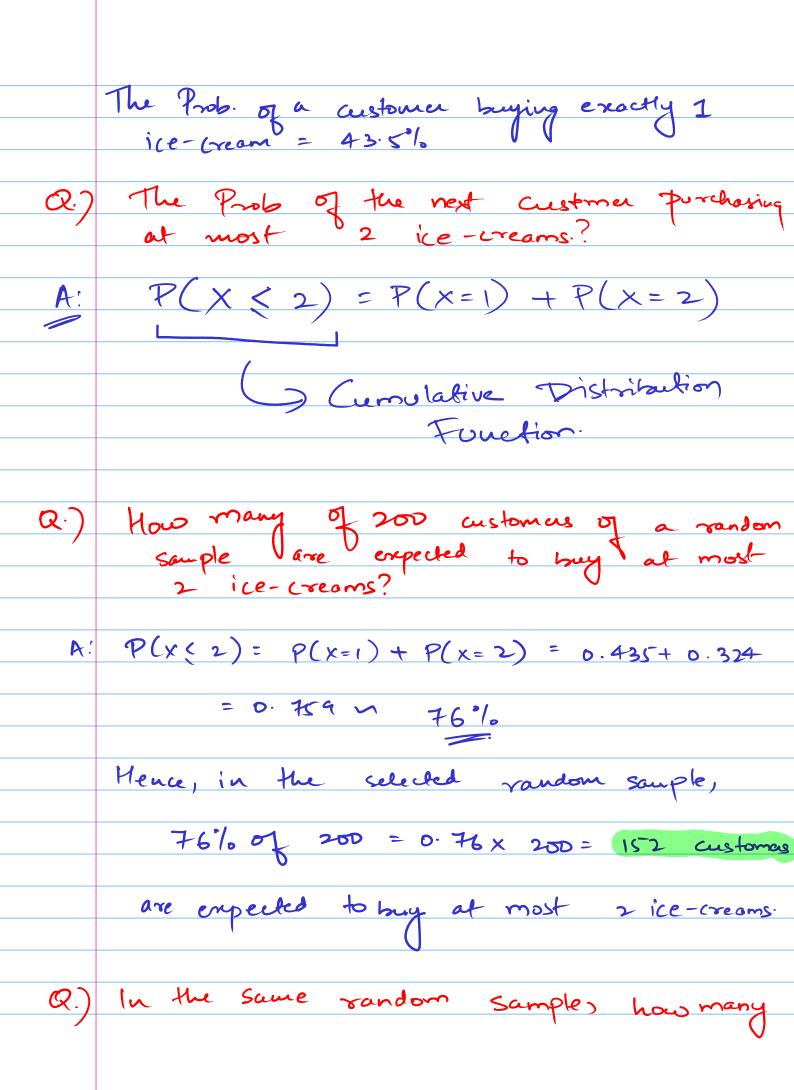
The PMF (f), of a discrete RV(x):

The PMF will have 2 properties:
1.
$$\int (x_R) / 0 \quad \forall \quad x_k \in \mathbb{R}$$

2. Summation of $f(x_k)=1$

# 9 ice	Total # of	Calculation for		
# 9 ice creams	Cus tomas	PMF (fxx)	PMF	CDF
Purchased at a time		P(X=xk)		
1	235	235/540	0.435	0.435
2	145	175/540	0.324	0.759
3	70	70/540	0.13	D.889
4	25	25/540	0.046	0.935
5	25	25/540	0.046	0.98
4	10	10/540	0.019	(.00
	Z = 540		2=1.00	

Toble: Sales details for March



are expected to buy at least 2 ice-creams?

(inclusive of 2) A: $P(x) = P(x-2) + P(x-3) + P(x-4) + \cdots + P(x-6)$ = 0.324+ 0.131...+ 0.019 = 0.565 n 56.5% Discrete Uniform Distribution -) Fixed # of outcomes -) Constant Prob. for each outcome. :. X has a discrete Uniform dist., if every m valves in its range, say, a, az, az, ..., am has an equal likeliness to occur. $P(x=a_1) = P(x=a_2) = ... = P(x=a_m) = 1$

Let's suy you're volling a fair die.

RV (x) = Outcome of a die roll.

X= {1,2,3,4,5,6}

$$\int_{0}^{1} (x) = P(x=1) = P(x=2) = \dots = P(x=6) = \frac{1}{6} = 0.166$$