Lecti	ure
Num	her

Problem/Task

A random Variable has the

following distribution

Exercise 01

X	0	1	2	3	4	5	6	1
Cmig	0	K	2k	3k	k	2k	7k	K

hand the value of "K"

exercise 01 Name: Basil al-Shaya

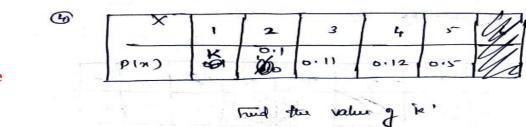
A random variable for the following distribustion.

Find the value of K'

$$P(x) = \sum_{i=1}^{n} P(x_i) = 1$$

P(x0) + P(x1) + P(x2) + P(x3) + P(x4) + P(x5) + P(x6) + P(x7) = 1

$$\frac{17K}{17} = \frac{1}{17}$$



(100 0,01 0,5 0,01 0,01 0,02 @ Find E(x): Solu = E(K): E KI-P(K) X, P(X) + X, P(X) 1 (0,01)+2 (0,5)+3 (0,01)+4 (0,01)+5 (0,02)+6 (0,01) E(x) = 1,24 D P(X≤4) 0,01+0,5+0,01+0,01=[0,53] @ P(X>5) 0,02+0,01 = 0,03

is Probability of getting a tail in bussing a coin

Exercise 03

12, Probability of getting 5 in theowing a dice

) 100000	lity of gettin	na tail in	essing a
1			
2			
2) Probability	of getting	E in tossing	a dice
) + 100101111	2 112	2	
马毒	1		
****	6		
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9. Brove that the Epts)

P(B)= 1-P(B) by venu diagram

PYOVE:
$$P(B) = 1 - P(B)$$

BUB = S

 $P(B \cup B) = P(S) = 1$
 $P(B \cup B) = 1$
 $P(B) \cup P(B) = 1$
 $P(B) \cup P(B) = 1$
 $P(B) \cup P(B) = 1$
 $P(B) = 1 - P(B)$

1) Base Desire the theorems of Mulhplication (2 theorems).

we know
$$P(A/B) = P(A/B)$$

$$\frac{P(A \cap B)}{P(B)} = P(A/B)$$

$$\frac{P(A \cap B)}{P(A \cap B)} = P(\frac{A}{B}) \cdot P(B)$$

$$\frac{P(A \cap B)}{P(A \cap B)} = P(\frac{A}{B}) \cdot P(B)$$

$$\frac{P(A \cap B)}{P(A \cap B)} = P(\frac{B}{A}) \cdot P(A)$$

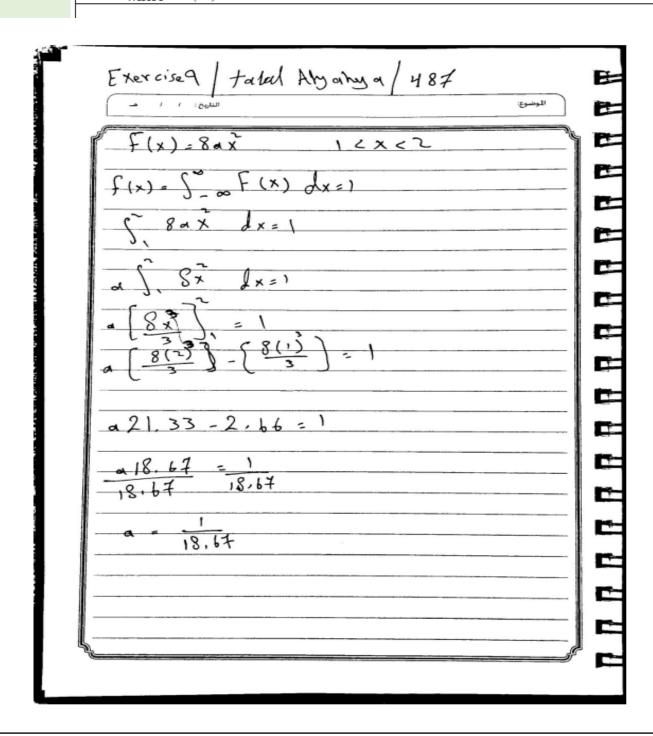
$$\frac{P(A \cap B)}{P(A \cap B)} = P(\frac{B}{A}) \cdot P(A)$$

$$\frac{P(A \cap B)}{P(A \cap B)} = P(\frac{B}{A}) \cdot P(A)$$

$$\frac{P(A \cap B)}{P(A \cap B)} = P(\frac{B}{A}) \cdot P(A)$$

Exercise 08

2. Find the value of 'a' in the following Random Variable. where $F(X)=8ax^2$ $1 \le x \le 2$



Find the value of "m" for the continuous Random Variable where

Exercise 10

Lecture 11

$$F(x)=8mx+4mx^2$$
 0

1. Find the value of 'K' for the following Random variables,

a.
$$F(x) = 4k - x$$

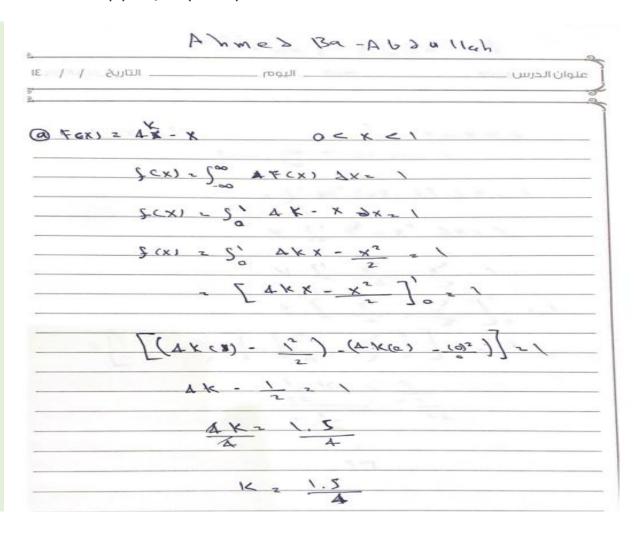
0< x <1

b.
$$F(x) = kx^2 (x - 1)$$

0< x <1

c.
$$F(x) = k/3 (x^2 - x)$$

0< x< 2



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) Kx2 (x-1)		0 < X < 1	
	fexico Fe	x) 3x = 1	
	, (, 500		
	. (1 Wx2	(x1-1) & x = 1	
) .		
	V 61 X	3 - K2 DX21	
	K) 0	- 1 01-1	
		* - x2 - 1	
	100	4 2	
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3	
€ FCX) = K (x2 - X) 0 < X < 2	
1 (x 1 - 2 x x (x) 9 x x /	
52 K (x2 - X) 3x=1	
) • 5	
16 25 - X 3× 5/	
, , ,	
11 [x - x²] = 1	
	h
11 [(2) - (1)] = []	7
7 K 2 1	
(4	
k. 4	