PROBABILITY & STATISTICS HW 1 Date MTWTFSS
1) 5 Red, 5 spulvite, 45/18backstille 01, 697 ? (8)
1 = $20x$ -60 -60 -60 -60 -60
x = 0.05. $p_{2} ^{1/2} \times q_{2} ^{2} = b_{2} ^{2} + b_{3} ^{2} + b$
b) P(R'NB') = 1-5(0:05)-10(0:105)=0.25)
c) and PP(B') a= 1= P(B) FC/P(B) FC/P(B)
A) No cre uses phone = 0.05 · 1 = (Ω) 9 (b) (hance of Speech = 0.75
2) [1,2,3,4] [1,2,3,4] (1,2,3,4] [1,2,3,4] (1,2,3),4] (2,3),63,2);(4,1);(4),1
2F.0 x (20.0-1) = 27/4 = 1/2 Ams.
20-7125 Aus.
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2) STIBITATE Date M T W T F S S
3) 5 Red, 10 White, 10 Black, 5 Orange?
2711211 27 / 3/2 7 / 3 / 1/3 / 2006/10
a) Total Balls = 30. (12) 1 + 12 + 12 - 125 1 1905 19
Chance of Red = 3/30.
Character 20.05x
Chance of both Red = 5/30 × 4/29 = 2/87 OR 0.023 Aws.
2-5/87 OR O. 023 Aus.
b) Chance of Orange = 5/300) 2-1 = (2119)9
: P(OIR) = 5/30 x 5/29 (= 5/174 OR 0-029 Aus)
No one uses phone = 0.05 1 = (1) 7 (b
No one uses phone = 0.05 Chance of Speach = 0.75
[H, E, S, I] [H, E, S, I] (S
Chance of Speech = P (Someone using Phone) x P (Speech)
"u Next Classer E) (E, E) (H. 1) - 3 / will
$= (1-0.05) \times 0.75$
20.95 × 0.75
= 0.7125 Aus.
G

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			Date	
5) 1 Blue A	99. Green 2.0 . 2.	= 4x (c-2	(mitruffeet) 9	1
		J. J. S.		
P (Actuall	y Blue) = 0.01	× 0.99 =	0-0099	
D (Mistake	My Blue) = 0.99	× 0.02 =	0.0198	
)	7	7.3.7	27	
	Witness' Statement	= 0.00	paa	
8	1	0.0099	+ 0-0198	
		= 0.331	Aus.	
			P(P[]G)=0-1,	(
6) LA = 0.10,	P= 0-15 =N/A =	D.75).9,	7 (526)=0-25	
Danne ea	15 a 840 PD 000	000019=1	P(E11E) = F(E21E)	
	1-25, Po Theore			
•	,			
P(P)T	1=2×0-15×1032	0 x 0 - 25 O	(Two Reds)=0.75 (0.1	9
	(0.15×0.20)+(0-			
	C CWINS		,	
Y	= 0.545 Aus.	·= [201	1) F(AnB) = [p
	36		,	
	18/26	1= (2)9	P(A) = 18/26	

Since P(AME) + P(A).P(B) -> Not Independent

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F(Ans)

Dat	e					
M	T	w	T	F	S	S

7) P(D	estination) = 4x	(O·25 × O	.5) = 0	5 Aus 1	13
	60000	•0 2		-	
	PP00-25-125	0.5 D	12 - (2)	P(Actually	
ē.	50100.25	0:5	Plus > = C	[Nictoker. Up	ì
					<u> </u>
		0.5	1 (1) 200 (P (Plue / W)	
	9-25-3	0.5 D	STUTY, PRIMITE		
	2010 1 1 1 P. J. S	S D'			
	53.8 Aus.	0 =			
8) P(R1)	g)=0-1, P(GR	21/6)=0.9			
P (R2/1	3)=0.25, P. (GI	R2 (G) = 0.	15 31·0 :	9,01-0 = A	1 (3
	= P(P2/B) = P(G				
	(G) = 0.75(, F				
			. (
P(Two Reds)=0	.75 (0·10×0·2	5/+ 0:25	(D-5x0-5	5)7=17)9	
	2 000	8125 Aus	17.3117		
		THUS.			
0/0	<u> </u>	10) 5		T	
9) P(H)	B) = [1, 2]	= 121	ird o		
		36			
P(A) =	18/26 P(B)	= 18/36			
					
• ``.	P(ANB) = P(A	1) . P(B)			
	$\frac{12}{36} \neq \frac{18}{36} \times \frac{12}{36}$	21			
					5
Siv	ice P(ANB) \$ 1	P(A) • P(B)	\rightarrow Not	Independent.	
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10) P(A) = 18/36 , P(B) = 6/36

P(AnB) = 3/36

 $\frac{P(A \cap B) = P(A) \cdot P(B)}{\frac{3}{36}} = \frac{18}{36} \times \frac{6}{36}$ $\frac{1}{12} = \frac{1}{2} \times \frac{1}{6}$ $\frac{1}{12} = \frac{1}{12} \times \frac{1}{12}$

Since P(ANB)=P(A).P(B) -> Independent.

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