

(092) Math 131:Finite Mathematics QuizTest-3(8.3-8.4): May 12, 2010

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Contents

Marks: 20; Time: 15 Minutes

NAME:.....

I.D.#:

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SERIAL# SECTION #: (check: Sec.02A)

Sr.	08 am	07 am	10 am
	Sc 01	Sc 02	Sc 03

NOTE: SHOW ALL STEPS OF THE SOLUTION. NO CREDIT FOR ANSWERS WITHOUT COMPLETE SOLUTION. The questions are not in any order of difficulty at all. Only the nonprogramable calculators are allowed. Write the simplified answer of each question at the end of each question.

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 Q.1. (Marks : 4) An experiment consists of selecting three people at random and noting whether each is male (M) or female (F). What is an appropriate sample space for this experiment?

- *(A) $\left\{ \begin{matrix} MFM, MMF, FMM, FFM, \\ MFF, FMF, MMM, FFF \end{matrix} \right\}$
- (B) $\left\{ \begin{matrix} MFM, MMF, FMM, \\ FFM, MFF, FMF, FFF \end{matrix} \right\}$
- (C) $\{MMM, FFF\}$, (D) $\{M, F\}$
- (E) NONE OF THE CHOICES IS CORRECT.

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 Q.2. (Marks : 4). A computer dealer has 40 computers in his store. The dealer knows that 5 of the computers are defective. If one of the 40 computers is selected at random, what is the probability that it is defective.

Probability: $= \frac{5}{40} = 0.125$.

- (A) $\rightarrow 0.10$ *(B) $\rightarrow 0.125$
- (C) $\rightarrow 0.375$ (D) $\rightarrow 0.50$
- (E) $\rightarrow 0.60$ (F) $\rightarrow 0.70$
- (G) $\rightarrow 0.80$ (H) $\rightarrow 0.90$
- (K) $\rightarrow 0.90$, (N) NONE OF THE PREVIOUS GIVEN CHOICES IS CORRECT.

Q.3. (Marks : 6) Committee Selection. From a group of eight women and six men, two persons are selected at random to form a committee. Find the probability that the committee consists of exactly one man and one woman.

Probability: $= [C(8, 1) . C(6, 1)] / C(14, 2) = 48/91 = 0.527472527$.

Chice	CHOICES	Yes(√)
A \rightarrow	0.020408163	
B \rightarrow	0.142857142	
C \rightarrow	0.285714285	
D \rightarrow	0.326530612	
E \rightarrow	0.571428571	
F \rightarrow	0.081632653	
G \rightarrow	0.666666667	
*H \rightarrow	0.527472527	Yes(√)
I \rightarrow	0.734693877	
J \rightarrow	0.857142857	
K \rightarrow	0.428571428	
L \rightarrow	0.907029478	
M \rightarrow	0.952380952	
N \rightarrow	$\frac{\text{NONE of the ABOVE}}{\downarrow \rightarrow}$ Your Answer	$\frac{\text{Your Answer}}{\downarrow =}$ <hr style="width:50%; margin:auto;"/> $\frac{\uparrow}{\text{Write Answer}}$

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 Q.4. (Marks : 6). 262T14. If a pair of fair dice are rolled, the probability that the sum of the numbers of dots appearing is 9 or 10 is

(A) $\rightarrow \frac{1}{3}$ (B) $\rightarrow \frac{1}{9}$

(C) $\rightarrow \frac{1}{12}$ (D) $\rightarrow \frac{1}{18}$

*(E) $\rightarrow \frac{7}{36}$ (F) $\rightarrow \frac{1}{6}$

(G) $\rightarrow \frac{5}{18}$ (K) $\rightarrow \frac{5}{36}$

(H) $\rightarrow \frac{5}{6}$, (N) NONE OF THE PREVIOUS

GIVEN CHOICES IS CORRECT.

Answer: $S = \left\{ \begin{matrix} (1, 1), (1, 2), \dots, (1, 6), \\ \text{-----}, \\ (6, 1), (6, 2), \dots, (6, 6) \end{matrix} \right\}$
 $S^* = \{(3, 6), (6, 3), (4, 5), (5, 4), (4, 6), (6, 4), (5, 5)\}$
 Probability: $= \frac{|S^*|}{|S|} = \frac{7}{36}$.