

(092) Math 131:Finite Mathematics QuizTest-3(8.4-8.5-8.6): June 02, 2010

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Contents

Marks: 20; Time: 15 Minutes

NAME:.....

I.D.#:

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

<i>Sr.</i>	08 <i>am</i>	07 <i>am</i>	10 <i>am</i>
	<i>Sc</i> 01	<i>Sc</i> 02	<i>Sc</i> 03

NOTE: SHOW COMPLETE SOLUTION.

Q1. (Marks:4). 411SM37. A box has 15 marbles in it, 9 red and 6 white. Suppose we draw a marble from the box, replace it, and then draw another. Find the probability that

(a) both marbles are red.

- (A) → 0.11 (B) → 0.22
 (C) → 0.33 (D) → 0.44
 (E) → 0.36 (F) → 0.84
 (G) → 0.78 (H) → 0.80
 (J) → 0.90 (K) → 0.88

(N) → NONE OF THE ABOVE CHOICES IS CORRECT.

YOUR ANSWER := _____

(b) Exactly one of the two marbles is red?

- (A) → 0.12 (B) → 0.24
 (C) → 0.48 (D) → 0.36
 (E) → 0.64 (F) → 0.16
 (G) → 0.32 (H) → 0.96
 (J) → 0.18 (K) → 0.72

(N) → NONE OF THE ABOVE CHOICES IS CORRECT.

YOUR ANSWER := _____

Q2. (Marks: 7). 403SM1E. Consider a group of 36 students. Define the events E and F as

B: Student has the blue eyes; M: Student is a male

With regard to these two characteristics, suppose it is found that the 36 students are distributed as shown in the table.

	Blue Eyes <i>B</i>	Not Blue Eyes <i>B^c</i>	Totals
Male, <i>M</i>	12	12	24
Female, <i>F</i>	6	6	12
Totals	18	18	36

Find the probabilities of the following events:

(a) If we choose a student at random, then the probability that the student has Blue Eyes: $P(B) =$

- (A) → 0.10 (B) → 0.20
 (C) → 0.30 (D) → 0.40
 (E) → 0.50 (F) → 0.60
 (G) → 0.70 (H) → 0.80
 (J) → 0.90 (K) → 0.75

(N) → NONE OF THE ABOVE CHOICES IS CORRECT.

YOUR ANSWER := _____

(b) If we choose a student at random, then the probability that the student has Blue Eyes and the student is a Male, is given by: $P(B \cap M) =$

- (A) → 0.11111 (B) → 0.22222
 (C) → 0.33333 (D) → 0.44444
 (E) → 0.55555 (F) → 0.66667
 (G) → 0.77778 (H) → 0.8889
 (J) → 0.99999 (K) → 0.75681

(N) → NONE OF THE ABOVE CHOICES IS CORRECT.

YOUR ANSWER := _____

(c) If we choose a student at random, then the probability that the student has Blue Eyes if it is known that the student is a Male, is given by: $P(B|M) =$

- (A) → 0.10 (B) → 0.20
 (C) → 0.30 (D) → 0.40
 (E) → 0.50 (F) → 0.60
 (G) → 0.70 (H) → 0.80
 (J) → 0.90 (K) → 0.75

(N) → NONE OF THE ABOVE CHOICES IS CORRECT.

YOUR ANSWER := _____

(d) Are the events B and M independent? YES OR NO OR NEITHER.

Q.3. (Marks : 9). Three students Aslam, Ahmad and Ashraf attend their Math 131 class on every Wednesday independently with probabilities 0.85, 0.95 and 0.75, respectively. Find each of the following probabilities.

(a) The probability that on Wednesday all of them will be present in the class.

Answer:_____

(b) The probability that on Wednesday exactly one of them will be present in the class.

Answer:_____

(c) The probability that on Wednesday all of them be absent from the class.

Answer:_____