N. Noueihed MTM 233 Ouiz 2

Nov 5/2010

Time: 60 mins

Part 1

Do this part on the answer booklet.

(25%) 1. Given W B O O O

Four ballsare to be selected at random without replacement. Calculate the probabilities of the following events.

of getting exactly two white balls.

b) of getting at least one rd bal.

c) of getting one white, one black, and two red balls.

of getting at lest one white ball and at least one black ball.

e) of getting exactly two colors.

(28%)2. Given: W B W O O C

	W	В		W	В		W	В
	О	O	20.	0	0	,	О	0
	O	О		O	O,			Q
				O	0			O
4								*

A ball is to be selected from each box. Calculate the probabilities of each of the following events.

- a) getting all white balls.
- b) getting all black balls.
- c) getting exactly two white balls.

(20%) 3 Given p(A/B) = 0.5, and p(B/A) = 0.7, find p(A/B). p(AVB) = 0.9, who sixen.

b) A box contained: 3 for coins and two coins with $p(T) = \alpha$. Two coins were selected at random and tossed, and two heads came up. Calculate in terms of α the conditional probability that two fair coins were selected.

Part 2

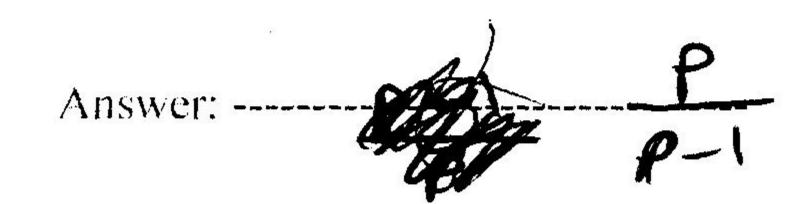
Do this part on the question sheet.

Please either circle the correct answer or supply your answer whenever appropriate.

1. If p(A) = p(B) = 0.75, which is true?

a) $p(A \cap B) = 0$	b) p $(A \cap B) = 1$	c) $p(AMB) = 16p(AMB) \ge 0.56p$ none
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- 2. Five distinct objects are to be randomly distributed into four distinct boxes. What is the probability that no box remains empty?
- (a) 17/64 b) 15/64 c) 19/64 d) 21/64 e) none
 - 3. Six identical objects are to be randomly distributed into home distinct boxes. Calculate the probability that no box remains empty.
 - a) 1/3 (b) 1/2 c) 11/14 d) 5/14 e) none
 - 4. If the probability of getting at least one tail upon tossing a coin 4 times is "p", what is the probability in terms of "p" of getting exactly two tails?



- 5. Three fair dice are to be thrown. Calculate the probability that "5" is the largest and "2" is the lowest among the three numbers.
- (a) 0.0278 b) 0.0478 c) 0.0833 d) (0.0478 e) none
 - 6. In a box there are 10 balls two of each color. Four balls are to be selected at random without replacement. What is the probability of getting exactly two colors?

Answer: 3/4

Good luck\$\$\$\$\$\$