Counting and Probability Practice

20 Minutes – (Don't skip any questions)

1) Quantitative Comparison:

A pizza may be ordered with any of eight possible toppings.

Quantity A	Quantity B
The number of different ways to order a pizza with *three* different toppings	The number of different ways to order a pizza with *five* different toppings

A. A > B B. B > A C. A = B D. Can't be determined

2) Nicole needs to form a committee of 3 from a group of 8 research attorneys to study changes to the Superior Court. If two of the attorneys are too inexperienced to serve together on the committee, how many different arrangements of committees can Nicole form?

A. 336 B. 56 C. 50 D. 30 E. 20

3) Dick has a 25% chance of winning each hand of blackjack he plays. If he has $ 150 and bets $50 a hand, what is the probability that he will still have money after the third hand?

A. 1/64 B. 3/16 C. 27/64 D. 37/64 E. 3/4

4) Quantitative Comparison:

Quantity A	Quantity B
$\frac{12!}{11!}$	$\frac{4!}{2!}$

A. A > B B. B > A C. A = B D. Can't be determined

5) A box contains CDs. If the probability of selecting a blank CD is 1 / 6 and the probability of selecting a burned CD is 2/3, which of the following is not a possible total number of CDs in the box?

A. 12 B. 18 C. 21 D. 24 E. 36

6) There are three different kinds of socks in a bag: red, blue, and yellow. The probability of choosing a red sock is 1/5. If there are twice as many blue socks as red socks, what is the probability of choosing a yellow sock?

A. 1/5 B. 2/5 C. 3/5 D. 4/5 E. *None*

7) A snack mix contains exactly 43 raisins, 26 peanuts, 14 walnuts, and 17 slices of dried banana. If a person randomly selects one item from the snack mix, what is the probability that he/she will not pick a nut?

A. $30/50$ B. $20/50$ C. $13/50$ D. $7/50$ E. $6/50$

8) A mailwoman delivers mail to 40 houses in the morning and to 80 houses in the afternoon. If she lost her purse, what is the probability that she left it at one of the houses in the morning?

A. $12\ \%$ B. $25\ \%$ C. $30\ \%$ D. $33.33\ \%$ E. 41.33%

9) Julie is going to roll a pair of six-sided dice, one at a time. What is the probability that she rolls a 3 and then a 4, OR a 5 and then a prime number?

A. 1/72 B. 1/36 C. 1/24 D. 1/12 E. 1/9

10) Steve and Mark are playing Blackjack with a standard 52 card deck. Steve deals Mark 2 cards; what is the probability that Mark does not get any J's, Q's or K's?

A. $4/13$ B. $5/13$ C. $10/17$ D. $13/20$ E. $7/9$

11) Quantitative Comparison:

A bag contains 7 green, 3 yellow, 3 black, and 3 red marbles.
Three marbles are drawn without looking.

Quantity A	Quantity B
The probability of drawing three green marbles.	The probability of drawing a yellow, black, and red marble.

A. A > B B. B > A C. A = B D. Can't be determined

12) Ms. Tanaka's class has 5 boys and 7 girls. If she randomly selects 3 students to work on a special project, what is the approximate probability that at least 2 of the students will be girls?

A. $92\ \%$ B. $85\ \%$ C. $78\ \%$ D. $71\ \%$ E. $64\ \%$

13) In the set {-6, -2, -1, 0, 3, 4, 8}, what is the probability of choosing 3 numbers whose sum is even?

A. $9/14$ B. $11/14$ C. $2/5$ D. $5/7$ E. $3/7$