

6. Complete the following homework assignment prior to Meeting #12:

- A. Study our notes from Meeting #11.
- B. Comprehend Jim's sample response to Quiz 11.
- C*. Three experiments are conducted:

$p(\text{Joker}) = \frac{2}{54}$ Experiment 1: One card is randomly drawn from a well-shuffled poker deck consisting of 54 cards – including 2 jokers.

$p(\text{orange not drawn}) = \frac{8}{10}$ Experiment 2: A ball is randomly drawn from an urn that contains exactly 3 black balls, 3 green balls, 2 yellow balls, and 2 orange balls.

$P(\text{Joker} \cap \text{orange not drawn}) =$ Experiment 3: Experiments 1 and 2 are combined.

$= \frac{2}{54} \cdot \frac{8}{10} = \frac{4}{135}$ What is the probability that Experiment 3 results in the event that both a joker is drawn and an orange ball is Not drawn?

Please display the computation that led to your solution (Please post the resulting PDF using the appropriate Canvas Assignment link.) .

D. Comprehend the following entries from our Glossary:

034. A taste of Counting:

A. Multiplication principle theorem:

Theorem 05: Independent experiments #1 and #2 with respective finite sample spaces Ω_1 and Ω_2 are conducted $\Rightarrow |\Omega_1 \cap \Omega_2| = |\Omega_1| \cdot |\Omega_2|$

B. Definition of a *permutation* of a finite set:

Given $A \in \{ \text{finite sets} \}$, $(f \in \{ \text{permutations of } A \} \Leftrightarrow f: A \xrightarrow[1:1]{\text{onto}} A)$

C. Note: Given $n, r \in \omega \ni r \leq n$, " ${}_nP_r$ " is read "the number of all possible permutations of n elements taken r at a time.

E. From the Video Page of *Canvas*, view with comprehension the video "counting and the multiplication principle."

F. Comprehend Jim's sample responses to the homework prompts that are posted on *Canvas*.