Complete the following assignment prior to Meeting #14:

A.   Study our notes from Meeting #13.

B.   Comprehend Jim's sample response to Quiz 13.

C*.   Solve Lanfen's problem and display your computation (As usual upload the resulting pdf document on the appropriate *Canvas* Assignment link):

> In a lottery, players pick six different numbers from { 1, 2, 3, ..., 49 }; the order in which a player picks them is irrelevant. The lottery manager randomly selects (without replacement) six of the numbers from { 1, 2, 3, ..., 49 }; the six selected numbers are referred to as "winning numbers." A player wins the grand prize if they/he/she picked all of the winning numbers. A player wins the second prize exactly if five of her/his/their picks match five of the winning numbers. A player wins the third prize if exactly four of his/their/her picks match four of the winning numbers. Lanfen wants to know the probability the pick of a player wins the first prize, the probability that it wins the second prize, and that the probability that it wins the third prize.

Sample computation:

$$p(\text{ the player winning a grand prize }) = \frac{1}{\binom{49}{6}} = \frac{1}{13983816}$$

$$p(\text{ the player wining a 2}^{nd}\text{ place prize }) = \frac{\binom{6}{5}\binom{43}{1}}{\binom{49}{6}} = \frac{258}{13983816} \approx \frac{1}{54200}$$

$$p(\text{ the player wining a 3}^{rd}\text{ place prize }) = \frac{\binom{6}{4}\binom{43}{2}}{\binom{49}{6}} = \frac{13545}{13983816} \approx \frac{1}{1032}$$

D.   From the Video Page of *Canvas*, view with comprehension "combinations" and then do the same for "probability using combinations."

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