

ENGR 0021 Recitation 1

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Chapter 2, Slide 34 (Submit this solution to Canvas)

The number of combinations of n distinct objects taken r at a time is:

$$\binom{n}{r} = \frac{n!}{r!(n-r)!}$$

Suppose there are 8 men and 8 women. How many ways can we choose a committee that has 2 women and 2 men?

Question 1

Calculate the mean, median, mode, variance, standard deviation, and range of the following list sampled from a population: 0, 1, 2, 2, 4, 5, 7

Question 2

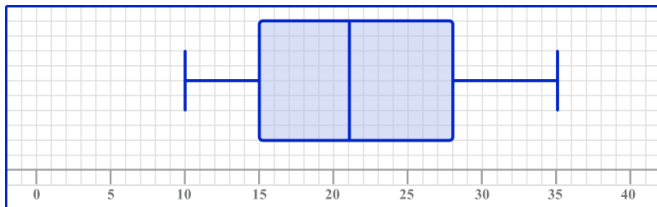
Suppose we have a list with 5 entries. Each entry can either be 1, 2, or 3. What must the list be if the average is 1? If the average is 3? Can the average be 4?

Question 3

Twenty people in a room have an average height of 65 inches. A twenty-first person enters the room. How tall must they be to raise the average height by one inch?

Question 4

Examine the following boxplot:



Determine the min, max, median, lower fourth, and upper fourth. Are there any outliers?

Question 5

Given the sample space $S = \{1, 2, 3, 4, 5, 6, 7, 8\}$ and sets $A = \{1, 2, 3, 4, 5\}$, $B = \{1, 3, 5, 7\}$, $C = \{2, 5, 8\}$, find: A' , $A \cup C$, $A \cap B \cap C \cap S$, $A' \cap B$, $(A \cup B') \cap C'$.

Question 6

Suppose you are in charge of selecting officers for a club with 10 members. The club needs to elect a President, Vice President, Business Manager, and Secretary. No student can hold more than one office. How many different ways can these officers be chosen?