Evidence Portfolio
2nd Extraordinary Opportunity

Probability and Statistics

Student's Name: _____

_____

ID Number: _____ Date: _____/ _____ / 2022

Teacher: _____Group: _____

This portfolio is part of the 60% of the grade. This value will be obtained as long as it complies with the following requirements:

1. Follow **the instructions provided by the teacher** for the filling out of this portfolio.
2. Write your **full identification data**.
3. **Upload and send** this portfolio **in PDF format**, the **day** and **time** the **teacher assigns it** in the team **Tasks section** of the corresponding **subject team in MS Teams**, where your teacher will check it.
4. **PLEASE ADD YOUR NAME ON EACH PAGE.**

UANL
UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN

UNIVERSIDAD AUTONOMA DE NUEVO LEÓN
PREPARATORIA No. 22

PROBABILIDAD Y ESTADÍSTICA

PORTAFOLIO DE EVIDENCIAS DE OPORTUNIDAD EXTRAORDINARIA

NOMBRE DEL ALUMNO: _____

MATRÍCULA:_____GRUPO: _____

MAESTRO: _____

FECHA: _____

EL PRESENTE PORTAFOLIO FORMA PARTE DEL___% DE TU CALIFICACIÓN. ESTE VALOR SE OBTENDRÁ SIEMPRE Y CUANDO SE CUMPLA CON LOS SIGUIENTES REQUISITOS:

- **CONTESTADO EN SU TOTALIDAD, CON TODOS LOS PROCEDIMIENTOS Y LAS RESPUESTAS CORRECTAS.**
- **ESCRITO A MANO CON BUENA PRESENTACIÓN (LIMPIEZA Y ORTOGRAFÍA).**
- **DATOS DE IDENTIFICACIÓN COMPLETOS.**

SE ENTREGARÁ UNICAMENTE AL INICIAR EL EXAMEN AL MAESTRO DE GUARDIA

I Answer the following exercises

The following table corresponds to the weights in Kg. of 50 people

62	46	47	49	49	50	50	50	50	56
48	48	48	45	58	39	63	63	64	66
51	51	51	51	52	59	52	53	53	54
54	55	44	55	56	40	42	43	55	44
52	56	51	56	56	57	59	60	61	46

1) Arrange the data in ascending order (from left to right)

Weight data for 50 people (kg)									

2) Arrange the data in stem-and-leaf diagram

3) Arrange the data in double stem diagram

II Explain or define the following concepts:

4) Absolute frequency (f)

5) Relative frequency (fr)

6) Percentage frequency (f%)

7) Cumulative absolute frequency (fa)

8) Cumulative relative frequency (fra)

9) Cumulative percentage frequency (f%a)

III Use the data from the table of number 1 and answer the following questions:

10) What is the absolute frequency of people that weighed 52 Kg?

11) What is the absolute frequency of people that weighed 50 Kg?

12) What is the relative frequency of people that weighed 50 Kg?

13) What is the percentage frequency of people that weighed 48 Kg?

14) How many people weighed less than 56 Kg?

15) How many people weighed more than 48 Kg?

16) What is the relative frequency of people that weighed 50 Kg or less?

17) What is the percentage of people that weighed 57 Kg or less?

IV Based on the formula K = 1 + 3.3 log n, determine the number of class intervals required to grouping:

18) 30 data

19) 45 data

20) 60 data

21) 80 data

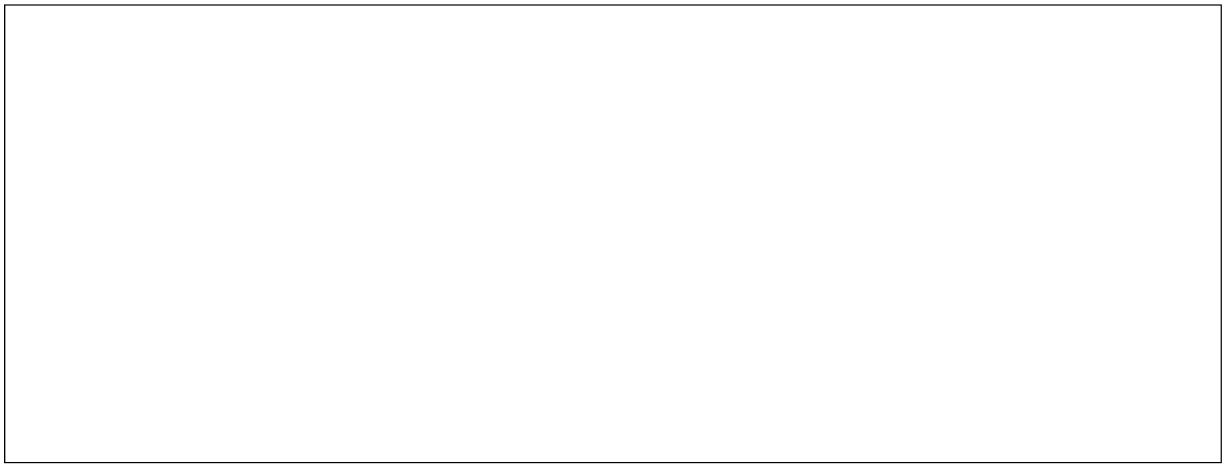
22) 100 data

23) 120 data

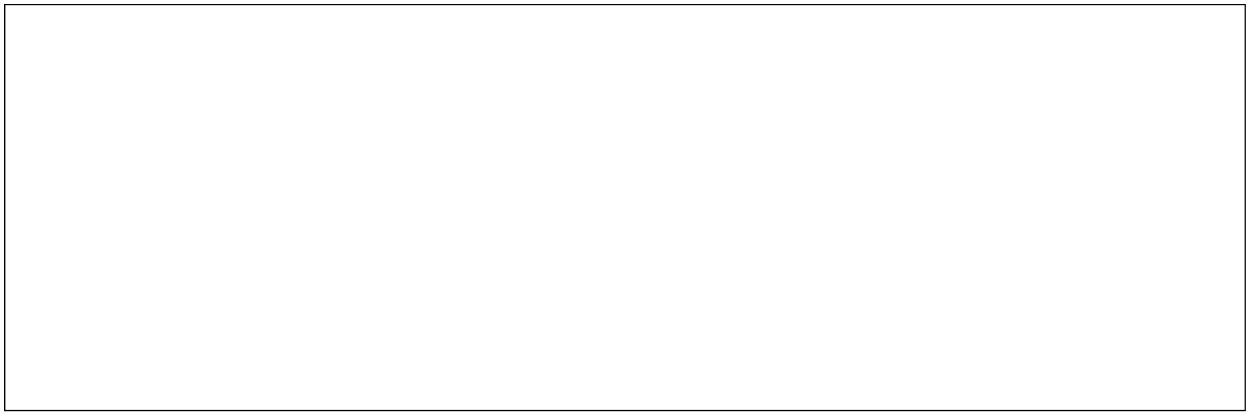
24) 140 data

V Schematize a hypothetical graph of the following types:

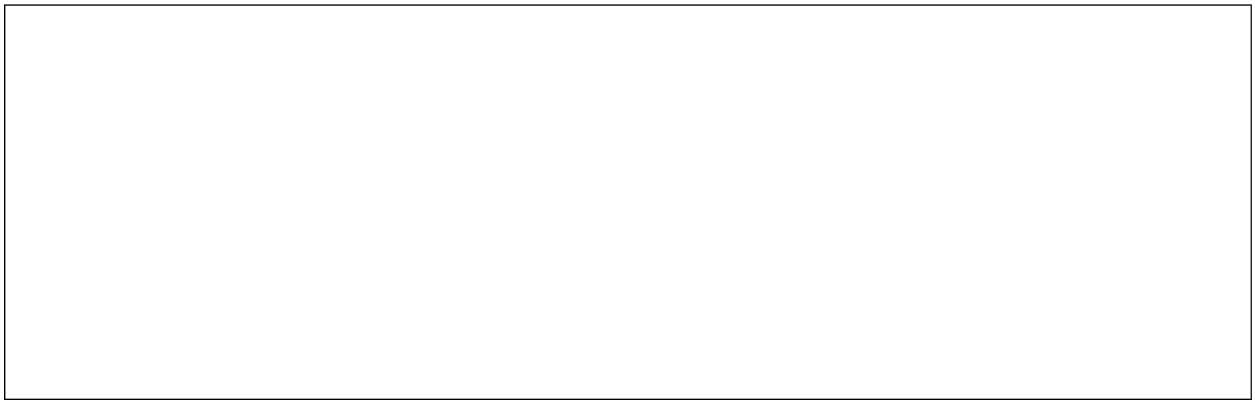
25) Frequency polygon



26) Histogram

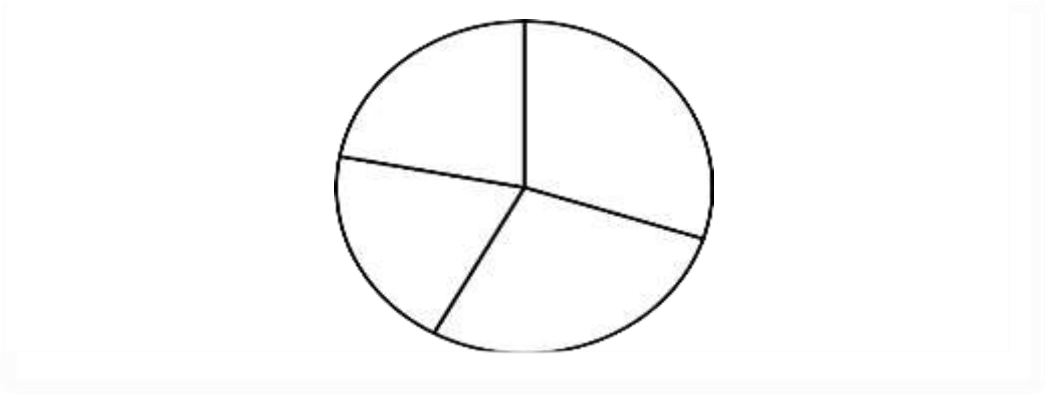


27) Bar graph



28) Circle graph

VI A survey of 700 people was carried out and the following graph of the color preferences of a school sports jersey was obtained



29) How many people like the color yellow?

30) How many people like the color blue?

31) How many people like the color green?

32) How many people like the color white?

VII Resolve the following problems by writing down the required formula and procedure.

33) The following table represents the age (p) and frequencies (f) of a group of people. Determine the mode.

p	47	49	50	52	54	55
f	15	20	31	17	37	12

Of the following values:

19, 21, 23, 24, 24, 24 25, 26, 28, 29, 34.

34) Calculate the mode

35) Calculate the median

36) Calculate the arithmetic mean

A frequency table of weights for a sample of 90 people shows that $\sum_{i=1}^{n} f_i(x_i - \bar{x})^2 = 3328.6$

37) What is the variance?

38) What is the standard deviation?

39) The license plates of a certain cars have 3 letters and 4 numbers. How many different license plates are, if it is known that the letters and numbers can be repeated? Considering the 26 letters of the alphabet and the numbers from zero to nine.

40) How many arrangements that would be had by seating 10 people around a circular table?

41) How many ways can 8 children playing in a circle be placed?

42) In a competition 4 places are awarded. If there are 18 participants. In how many ways could the fourth places be obtained?

43) In a race, trophies will be awarded to the first 3 places. If there are 22 participants.In how many ways could the three places be obtained?

44) Find the number of different signals, each consisting of 7 aligned flags, that can be formed with a set of 4 red flags and 3 blue flags.

45) How many different signals can be formed by aligning 5 yellow flags and 4 green flags?

46) In how many ways can a team of 3 members be formed from a group of 25 people?

47) In how many ways can a team of 6 people be formed from a group of 20 people?

When you rolling a die:

48) What is the probability to get a 4?

49) What is the probability to get a 2?

50) What is the probability to get an even number?

51) What is the probability to get an odd number?

An airline provides the following information

Arrival	Frequency
Before time	**93**
On time	**780**
Delayed	**70**
Cancelled	**57**
Total	**1000**

52) What is the probability that it arrived before or on time?

53) What is the probability that it arrived delayed or be cancelled?

54) What is the probability that it arrived before time or be cancelled?

55) Two dies are rolled; one white and one black. Consider the sample space. Find the probability to get a 2 on the white die or a 3 on the black die.

56) Two dies are rolled; one white and one black. Consider the sample space. Find the probability to get a 5 on the white die or a 3 on the black die.

57) In a box there 13 balls which 8 are black. If two balls are taken at random, what is the probability that both will be black? (without replacement)

58) Consider that you rolling a die and without seeing you take a ball from a box in which there are 6 white, 3 red and 2 green balls. What is the probability of taking a white ball and getting a 3 on the die?

59) Two dies are rolled; one white and one black. What is the probability that the sum of the points is more than 6, knowning that in the white die a number less than 3 was obtained. (Conditional probability, consider the sample space when you make the procedure)

60) Two dies are rolled; one white and one black. What is the probability that the sum of the points are more than 8, knowning that in the white die a number less than 5 was obtained. Conditional probability, consider the sample space when you make the procedure)