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|  COLEGIO SAGRADO CORAZÓN Montemayor | COLEGIO SAGRADO CORAZÓN Montemayor | CÓDIGO: MI2-FR44 |
| | GESTIÓN CURRICULAR | VERSIÓN: 0 |
| | EVALUACIÓN DE PERIODO | PÁGINA: 1 de 6 |

TERM: Semester 1
AREA: Math ADec
STUDENT: _____

DATE:
GROUP: 9th
GENERAL GRADE:

ACHIEVEMENT TO EVALUATE

Understands the demonstrations of theorems related to the elements of the circle and circumference, applies them appropriately to solve geometric exercises and construct new demonstrations.
 Identifies and constructs the elements of the circle, the circumference, and the right triangle, applying metric relationships and geometric properties to solve problems related to the calculation of perimeters, areas, and other metric situations.
 Find and interpret measures of central tendency and dispersion in grouped data sets, recognizing their usefulness for describing and analyzing statistical information. Organize and interpret grouped data through frequency tables, graphical representations, and scatter plots, identifying relationships between variables using the linear correlation coefficient.
 Solve application problems involving quadratic equations and functions.
 Graphically find the solution of systems of linear and quadratic inequalities, applying the properties of inequalities.
 Analyze, draw, and interpret graphs of polynomial functions and from the graph determine the domain and range; find their intercepts, maximum and minimum points.
 Represents and measures angles in different systems, defines trigonometric functions from the unit circle, and applies them in solving problems with right triangles.

A. Theoretical Concepts. (18 points)

Write **true or false** to the following statements and **justify** your answer if it is false. Incorrect justifications, have no grade.

A **portion of a circle bounded by two radii** of the circle and one of the arcs that they intercept **is a segment**.

Complex numbers whose imaginary part is zero **cannot** be represented on the Complex plane.

The sum of two complex numbers **can never** have an imaginary part equal to zero.

Every system of quadratic equations has **exactly** two real solutions.

The complex number $(3 + 4i)$ has an equal absolute value to $(4 + 3i)$.

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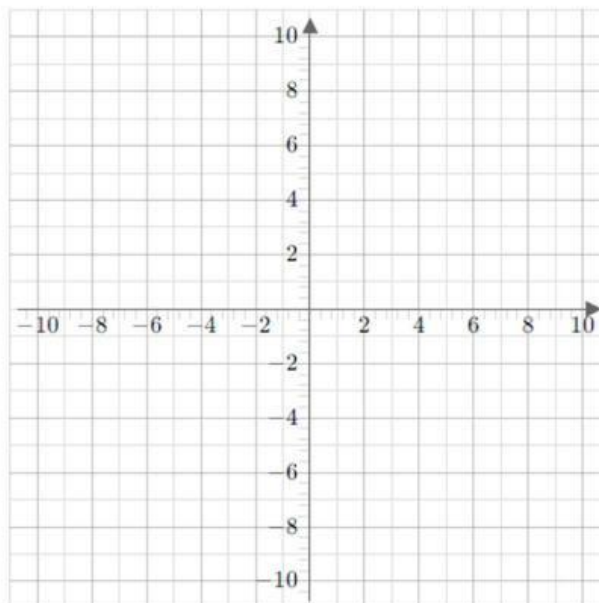
B. Practice Systems of Equations and inequalities. Show your Process. (20 points)

Solve the following systems using any method

$$\begin{cases} y = x^2 + 4x + 6 \\ y = 2x + 6 \end{cases}$$

Solve the following system

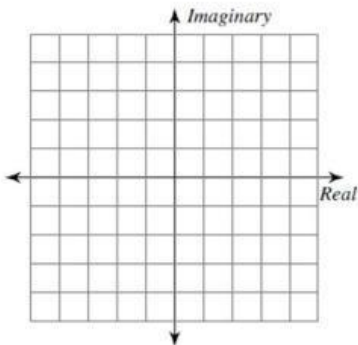
$$\begin{cases} y \geq 4x^2 + 8x - 1 \\ y < (x + 3)^2 + 4 \end{cases}$$



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C. Complex numbers (18 points)

Solve the following. **Show all your process: No process = No grade**

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|-------------------------------|--|---|
| Simplify: i^{239} | Solve: $(8 - 3i)^2$ | PLOT: $-3 - 5i$  |
| Simplify: $ 12 - 16i $ | Solve: $\frac{-2 + i}{-1 - 8i}$ | |



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D. Geometry: (25 Points) SHOW YOUR PROCESS

Find the Measure of the angles and arcs. AT and AZ are tangents

a = _____

b = _____

c = _____

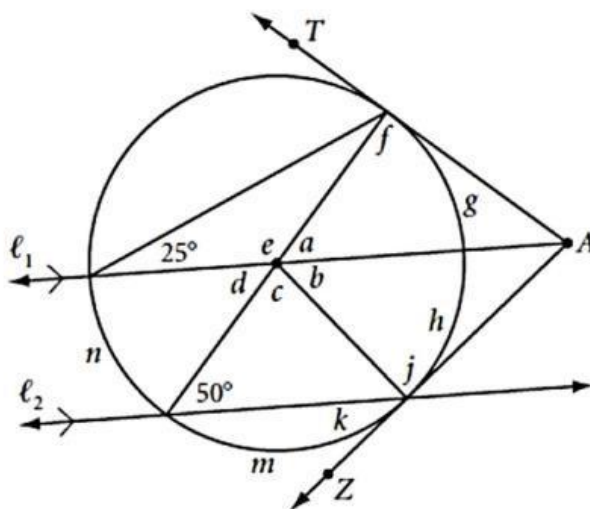
d = _____

e = _____

f = _____

g = _____

h = _____



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E. Statistics. (10 points)

Given the following set of data, we want to organize the data into groups.

26 18 21 34 18 38

22 27 22 30 25 25

38 29 20 24 28 32

33 18 19 22 20 18

39 35 36 27 18 29

30 31

We have decided that we want to have 5 intervals.

Fill in the frequency table

| Intervals | Frecuency | Cummulative Frequency | Relative Frequency | Cummulative relative frequency | % (Optional) |
|-----------|-----------|-----------------------|--------------------|--------------------------------|--------------|
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Find the Mean, median, mode

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Create a situation for the collected data and make 3 conclusions about the measures of central tendency found before

F. Trigonometry: (9 Points) Show your process

Determine the length of side unknown sides (x, y, z) to the nearest tenth.

