LIBERTY LIBERAL ARTS ACADEMY
High School Math
Geometry & Pre-Calculus

Teacher: Mrs. Lopez

Grade Levels: 9th – 12th

Teacher Compensation: $270 annually payable in 9 monthly payments of $30

Semester Supply Fees: $30 due each semester. Fall Semester fee is due 1st week of July to secure Student's place in class or on Orientation day. Spring Semester fee is due in January.

Curriculum: Teacher will supply all texts and workbooks

Students Supplies Needed: Protractor, compass, notebook, pens, pencils

Class Description

Geometry: Points, lines, planes, angles, circles, triangles, quadrilaterals, Pythagorean Theorem, conic sections, proofs and more.
Major Concepts and Skills Include:
Describing points, lines, rays, line segments, angles, and planes
Calculating the measure of the interior and exterior angles of a regular polygon
Understanding the geometry of a circle, sphere, and ellipse
Understanding and computing volume and surface area of solids
Using the Pythagorean theorem to identify triangle attributes
Applying postulates, theorems, definitions, and properties to geometric proofs
Additional Concepts and Skills:
Using a protractor to construct angles
Using a compass to construct bisectors
Constructing and identifying triangles
Working with algebraic expressions containing radicals
Completing geometric transformations within a Cartesian plane
Understanding basic trigonometric functions

Pre-Calculus: Trigonometry, identities, polar equations, logarithms, sequences, limits and other topics to prepare for calculus.
Major Concepts and Skills Include:
Understanding and working with trigonometric ratios, their reciprocals, and their inverses
Working with trigonometric expressions and identities
Understanding and working with polar coordinates and radian measure
Graphing and analyzing trigonometric functions
Understanding functions, limits, domain, and range
Working with Arithmetic and Geometric Series and Sequences
Additional Concepts and Skills:
Understanding and applying the Laws of Sines and Cosines
Understanding and applying the Sum, Difference, Double-Angle, and Half-Angle Identities
Proving trigonometric identities
Working with vectors and adding linear functions
Understanding and working with logarithms
Working with Euler's number and natural logarithms