

Content – Elaborations

- **constructions:**
 - perpendicular bisector, tangents, polygons, tessellations, geometric art
- **conics:**
 - locus definition and constructions, conic sections, applications
- **fractals:**
 - understanding fractals as an iteration of a simple instruction
 - constructing and analyzing models of fractals, such as Cantor’s dust, Sierpinski’s triangle, Koch’s snowflake
 - connecting fractals with nature
- **representations:**
 - using technology only
 - using characteristics of a graph to identify these functions
- **regression analysis:**
 - polynomial, exponential, sinusoidal, logarithmic
 - applying the appropriate regression model
- **combinatorics:**
 - permutations, combinations, pathways, Pascal’s Triangle
- **odds, probability:**
 - mutually exclusive, non–mutually exclusive, conditional probability, binomial probability
 - Venn diagrams
- **financial planning:**
 - developing a personal financial portfolio
 - mortgages
 - risk
 - changing interest rates and/or payments
 - credit cards
 - exploring banking options and financial markets