
Senior 2 class 4 Calculus [non elective] 2 x 40'/ week

1. Review of elementary functions and their graph
 - a. Parabola & Hyperbola
 - b. Absolute value and Radicals
 - c. Exponential and Logarithm
 - Geometric transformations of graphs of functions
 - d. change of equation and construction by :
 - i. *symetries through the axes*
 - ii. *symetries through one point.*
2. Limits : definitions & general theorems (review)
3. Undecided cases of limits :
 - i. Typical cases w. rationally functions
 - ii. Other cases
4. Graphic interpretations of limits
 - i. Asymptotic directions
 - ii. Vertical or horizontal or oblique asymptotes
 - iii. Position of the curve / asymptote
5. Derivatives
 - i. Definition and graphic interpretation (tangent)
 - ii. General theorems (S,P,Q,R) review
 - iii. Formulas : review and exercises
6. Differentials :
 - i. Relationship with the derivatives
 - ii. Applications to Physics problems
 - iii. Introduction to Euler's method.
7. Theorems of variations / sign of the derivative
 - i. construction of a chart of variation and limits
 - ii. Graph associated with a chart
8. Singular points :
 - i. Inflection points
 - ii. Angular points ("niao" function)
 - iii. Vertical tangent.
9. Introduction to integrals :
 1. graphic construction of integrals
 2. relationship with sequences
10. Calculations of areas and volumes.