



## MATH DEPARTMENT

### Lessons required for the Math Entrance Exam: (Grade 10Bac to 11L)

#### \*Calculator is needed.

#### 1- Sets:

Students should be able to:

- Write a set in comprehension/extension.
- Find the subset of a set, the complement of a subset as well as the intersection and union of two sets.

#### 2- First Degree Equations and Inequalities in One Unknown:

Students should be able to:

- Study the sign of  $ax+b$ , a product of first degree factors and a quotient of first degree factors.
- Solve inequalities with the above mentioned expressions.

#### 3- Coordinate System:

Students should be able to:

- Identify a system of the plane as normal, orthogonal and orthonormal.
- Plot a point in an orthonormal/orthogonal system.
- Find a Cartesian equation of a straight line given 2 points or 1 point and a directing vector.

#### 4- Functions:

Students should be able to:

- Find the domain of definition of a function.
- Study the parity of a function.
- Study the sense of variation of a function over its domain of definition.
- Find the local/absolute extrema of a function.
- Plot the graph of a function.
- Solve equations and inequalities graphically.