Laval Junior Academy

Secondary 1 Course Outline

Students in the enriched class are not allowed to use a calculator, except for chapter 4.

Chapter 1: NUMBER THEORY

- Review: Expanded form and rounding
- Exponents/ Squares and square roots
- Order of operations
- Rules of divisibility for 2, 3, 4, 5, and 10
- Prime and composite numbers
- Factor trees (prime factorizations)
- Factors and Multiples (GCF and LCM)
- Word problems – GCF/LCM/BEDMAS

Chapter 2: INTEGERS & CARTESIAN PLANE – NO CALCULATORS

- Comparing and ordering integers
- Basic operations with integers
- Order of operations with integers
- Locating integers on the number line
- Cartesian Plane (x-axis and y-axis)/Naming the axes, quadrants and origin
- Plotting points/Writing the coordinates of a point

NO WORD PROBLEMS – focus on basic skills

- Average and range

Chapter 3: FRACTIONS

- Locating fractions on the number line
- Comparing and ordering fractions
- Proper, improper fractions and mixed numbers
- Creating **equivalent** fractions and simplifying fractions – introduce the notion of proportion
- Operations with fractions
- Order of operations with fractions – limit to 3-4 steps
- Finds the fraction of a whole number
- Finds the fraction of a fraction

Chapter 4: PERCENT

- Understanding of percent
- Converting fractions to decimals to percent (and vice versa)
- Calculating percent of a number and the whole from percent – using the proportion.
- Applications of percent – taxes and discounts

Chapter 5: PERIMETER AND AREA

- Converting units of length
- Calculating perimeter and area of:

- rectangle - square - rhombus
- trapezoid - parallelogram - triangle

- Calculating area of composite shapes and shaded region
- Finding missing dimension of square or rectangle

Chapter 6: GEOMETRIC PROPERTIES AND ANGLES

- Identifying types of lines – parallel, perpendicular, intersecting
- Identifying types of angles – acute, obtuse, reflex, straight, right
- Bisecting angles and lines
- Angle bisectors, perpendicular bisectors
- Identifying different angles: complementary, supplementary, vertically opposite, adjacent, alternate interior, alternate exterior, corresponding
- Calculates unknown measurements in various situations
- Types and properties of triangles
- Special lines in triangles (median, altitude, perpendicular bisector)
- Sum of angles in a triangle
- Calculates unknown measurements in various situations
- Properties of quadrilaterals
- Identifying and naming polygons – regular, convex and concave

Chapter 7: STATISTICS

- Differentiating a sample survey, poll, census
- Identifying types of variables: qualitative and quantitative
- Reading and constructing:
  - bar graph - broken-line
  - circle graph - frequency tables
- Calculating mean and range