

SENIOR PHASE
**MATHEMATICAL
 UNDERSTANDINGS**
 SOME KEY

CONCEPTS

Clarification of concepts to be taught and covered by term by grades

Some useful key concept charts

SOME KEY CONCEPTS



Clarification of concepts to be taught and covered in Grade 9

Refer to the Lesson plan section and the annual teaching plans for more detail

TERM 1

NUMBERS, OPERATIONS AND RELATIONSHIPS

1.1 Whole numbers

Properties of whole numbers, Calculations using whole numbers, Calculation techniques, Multiples and factors, Solving problems,

1.3 Integers

Calculations with integers, Properties of integers, Solving problems

1.4 Common fractions

Calculations using fractions, Calculation techniques, Solving problems, Equivalent forms

1.5 Decimal fractions

Calculations with decimal fractions, Calculation techniques, Solving problems, Equivalent forms

1.2 Exponents

Comparing and representing numbers in exponential form. Calculations using numbers in exponential form, Solving problems

PATTERNS, FUNCTIONS AND ALGEBRA

2.1 Numeric and geometric patterns

Investigate and extend patterns

2.2 Functions and relationships

Input and output values, Equivalent forms

2.3 Algebraic expressions

Algebraic language, Expand and simplify algebraic expressions, Factorise algebraic expressions

2.4 Algebraic equations

Equations

REVISION AND QUARTERLY ASSESSMENTS

TERM 2

SPACE AND SHAPE (GEOMETRY)

3.3 Geometry of Straight lines

Angle relationships, Solving problems

3.5 Construction of geometric figures:

Constructions, Investigating properties of geometric figures

3.1 Geometry of 2D shapes:

Classifying 2D shapes, similar and congruent triangles, solving problems.

MEASUREMENT

4.3 The Theorem of Pythagoras

Solve problems using the Theorem of Pythagoras

4.1 Area and perimeter of 2D shapes

Area and perimeter

REVISION AND EXAMINATIONS

TERM 3

PATTERNS, FUNCTIONS AND ALGEBRA

2.2 Functions and relationships

Input and output values
 Equivalent forms

2.3 Algebraic expressions

Algebraic language, Expand and simplify algebraic expressions, Factorise algebraic expressions

2.4 Algebraic equations

Equations

2.5 Graphs

Interpreting graphs, Drawing graphs

MEASUREMENT

4.2 Surface area and volume of 3D objects:

Surface area and volume

REVISION AND QUARTERLY ASSESSMENTS

TERM 4

SPACE AND SHAPE (GEOMETRY)

3.4 Transformation Geometry:

Transformations, enlargements and reduction.

3.2 Geometry of 3D objects :

Classifying 3D objects, Building 3D models

DATA HANDLING

5.1 Collect, organise and summarize data

Collect data, Organise and summarize data

5.2 Represent data

Represent data

5.3 Interpret, analyse and report data

Interpret data, Analyse data, Report data

5.4 Probability

Probability

REVISION AND EXAMINATIONS



Clarification of concepts to be taught and covered in Grade 7

Refer to the Lesson plan section and the annual teaching plans for more detail

TERM 1

NUMBERS, OPERATIONS AND RELATIONSHIPS

1.1 Whole numbers

Mental calculations, Ordering and comparing whole numbers, Properties of whole numbers, Calculations with whole numbers, Calculation techniques, Multiples and factors, Solving problems

1.2 Exponents

Mental calculations, Comparing and representing numbers in exponential form, Calculations using numbers in exponential form, Solving problems

SPACE AND SHAPE (GEOMETRY)

3.5 Construction of Geometric figures

Measuring angles, Constructions

3.2 Geometry of 2D shapes

Classifying 2D shapes, Similar and congruent 2D shapes, Solving problems
Term 1: 4.5 hours

3.3 Geometry of Straight lines

Definitions

REVISION AND QUARTERLY TESTS

TERM 2

NUMBERS, OPERATIONS AND RELATIONSHIPS

1.4 Common Fractions

Ordering, comparing and simplifying fractions, Calculations using fractions, Calculation techniques, Solving problems, Percentages, Equivalent forms

1.5 Decimal fractions

Ordering and comparing decimal fractions, Calculations using decimal fractions, Calculation techniques, Solving problems, Equivalent forms

PATTERNS, FUNCTIONS AND ALGEBRA

2.2 Functions and relationships

Input and output values, Equivalent forms

MEASUREMENT

4.1 Area and perimeter of 2D shapes

Area and perimeter, Calculations and solving problems

4.2 Surface area and volume of 3D objects

Calculations and solving problems

REVISION AND EXAMINATIONS

TERM 3

PATTERNS, FUNCTIONS AND ALGEBRA

2.1 Numeric and Geometric patterns

Investigate and extend patterns

2.2 Functions and relationships

Input and output values, Equivalent forms

2.3 Algebraic expressions

Algebraic language

2.4 Algebraic equations

Number sentences

2.5 Graphs

Interpreting graphs, Drawing graphs

SPACE AND SHAPE (GEOMETRY)

3.2 Geometry of 3D objects

Classifying 3D objects, Building 3D models

REVISION AND QUARTERLY TESTS

TERM 4

NUMBERS, OPERATIONS AND RELATIONSHIPS

1.3 Integers

Counting, ordering and comparing integers, Calculations with integers, Properties of integers, Solving problems

PATTERNS, FUNCTIONS AND ALGEBRA

2.1 Numeric and geometric patterns

Investigate and extend patterns

2.2 Functions and relationships

Input and output values, Equivalent forms

2.3 Algebraic expressions

Algebraic language

2.4 Algebraic equations

Number sentences

DATA HANDLING

5.1 Collect, organise and summarize data

Collect data, Organise and summarise data

5.2 Represent data

Represent data

5.3 Interpret, analyse and report data

Interpret data, Analyse data, Report data

5.4 Probability

Probability

REVISION AND EXAMINATIONS



Clarification of concepts to be taught and covered in Grade 8

Refer to the Lesson plan section and the annual teaching plans for more detail

TERM 1

NUMBERS, OPERATIONS AND RELATIONSHIPS

1.1 Whole numbers

Mental calculations, Ordering and comparing whole numbers, Properties of whole numbers, Calculations using whole numbers, Calculation techniques, Multiples and factors, Solving problems, Counting, ordering and comparing integers, Calculation with integers, Properties of integers, Solving problems

1.2 Exponents

Mental calculations, Comparing and representing numbers in exponential form, Calculations using numbers in exponential form, Solving problems

PATTERNS, FUNCTIONS AND ALGEBRA

2.1 Numeric and geometric patterns

Investigate and extend patterns

2.2 Functions and relationships

Input and output values, Equivalent forms

2.3 Algebraic expressions

Algebraic language, Expand and simplify algebraic expressions

2.4 Algebraic equations

Equations

DATA HANDLING

5.5 Represent data:

Represent data

5.6 Interpret, analyse and report data.

REVISION AND QUARTERLY ASSESSMENTS

TERM 2

PATTERNS, FUNCTIONS AND ALGEBRA

2.3 Algebraic expressions

Algebraic language, Expand and simplify algebraic expressions

2.4 Algebraic equations

Equations

SPACE AND SHAPE (GEOMETRY)

3.5 Construction of Geometric figures

Constructions, Investigating properties of geometric figures

3.1 Geometry of 2D shapes

Classifying 2D shapes, Similar and congruent 2D triangles, Solving problems

3.3 Geometry of Straight lines

Angle relationships, Solving problems

REVISION AND EXAMINATIONS

TERM 3

NUMBERS, OPERATIONS AND RELATIONSHIPS

1.4 Common Fractions

Calculations with fractions, Calculation techniques, Solving problems, Percentages, Equivalent forms

1.5 Decimal fractions

Ordering and comparing decimal fractions, Calculations with decimal fractions, Calculation techniques, Solving problems, Equivalent forms

MEASUREMENT

4.3 The Theorem of Pythagoras

Develop and use the Theorem of Pythagoras

4.1 Area and perimeter of 2D shapes

Area and perimeter, Calculations and solving problems

4.2 Surface area and volume of 3D objects

Surface area and volume, Calculations

and solving problems

DATA HANDLING

5.1 Collect, organise and summarize data

Collect data, Organise and summarize data, Represent data

5.3 Interpret, analyse and report data

Interpret data, Analyse data, Report data

REVISION AND QUARTERLY TESTS

TERM 4

PATTERNS, FUNCTIONS AND ALGEBRA

2.2 Functions and relationships

Input and output values, Equivalent forms

2.4 Algebraic equations

Equations

2.5 Graphs

Interpreting graphs, Drawing graphs

SPACE AND SHAPE (GEOMETRY)

3.4 Transformation geometry

Transformations, Enlargements and reductions

3.2 Geometry of 3D objects
Classifying 3D objects, Building 3D models

DATA HANDLING

5.4 Probability

Probability

REVISION AND EXAMINATIONS