



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

ANNUAL NATIONAL ASSESSMENT 2015
ASSESSMENT GUIDELINES
MATHEMATICS
GRADE 7

INTRODUCTION

The 2015 cycle of Annual National Assessment (ANA 2015) will be administered in all public and designated¹ independent schools in September 2015. During this period all learners in Grades 7 - 9 will write nationally set tests in Language and Mathematics. The results will be used to report progress related to achieving the goals set in the *Action Plan 2014, Towards Schooling 2025*.

The ANA tests will be written during the third school term. Therefore, the Department of Basic Education (DBE) has developed Assessment Guideline documents for Language and Mathematics in each grade. These guidelines outline the minimum curriculum content that must be covered by all learners prior to the writing of the test. The Assessment Guidelines set the limits of the scope of work that will be covered in the test for each grade and subject. The ANA 2015 Assessment Guidelines have been designed in line with the Curriculum and Assessment Policy Statement (CAPS).

SENIOR PHASE: Grade 7

In Grade 7, the test will cover topics, **excluding Geometry of 3D objects and Transformations**, that is prescribed in CAPS for the **first three terms** of the school year. It is important to note that the ANA 2015 Assessment Guidelines do not imply that the delimited scope is all that must be taught and learnt during the school year. Instead the Assessment Guidelines provide the basic minimum curriculum that must have been covered by the end of the third school term. There will only be one non-routine question in the ANA test.

For this grade the Assessment Guidelines are arranged in four columns. The content area to be assessed is specified in the first column, the topics are listed in the second column, the concepts and skills are listed in the third column and the descriptive statements are indicated in the fourth column.

Teachers are expected to use these Guidelines together with the CAPS to ensure that all the topics that will be assessed have been covered.

¹ "Designated" independent schools are those that will apply and register either their Grade 3 or Grade 6 learners to participate in ANA for purposes of securing State subsidy.

CONTENT AREA	TOPICS	CONCEPTS AND SKILLS	Descriptive Statements The learner will be assessed on:-
Number Operations and Relationships	Whole numbers	Addition and subtraction	Adding and subtracting whole numbers.
		Multiplication and division	Multiplying or dividing whole numbers.
		Calculation techniques	Calculations using all four operations and various techniques.
		Multiples and factors	Determining multiples, factors and / or prime factors to at least 3-digit whole numbers by inspection or factorisation.
		LCM and / or HCF	Determining LCM and / or HCF of numbers to at least 3-digit whole numbers by inspection or factorisation.
		Ratio and rate	Solving problems involving whole numbers including:- <ul style="list-style-type: none"> • ratio, rate and / or • sharing in a given ratio and speed, distance and time.
	Exponents	Calculation techniques	Performing calculations involving all four operations using numbers in exponential form limited to exponents up to 5 and / or square roots and / or cube roots.
	Common fractions	Comparing, ordering and simplifying fractions	Using knowledge of multiples and factors to write fractions in the simplest form before or after calculations.
			Multiplying common fractions including mixed numbers.
	Decimal fractions	Addition and subtraction	Adding and subtracting decimal fractions of at least 3 decimal places.
		Multiplication and division	Multiplying or dividing decimal fractions to at least 3 decimal places by whole numbers.
	Decimal fractions	Equivalent forms	Recognising equivalence between common fraction, decimal fraction and / or percentage forms of the same number.

CONTENT AREA	TOPICS	CONCEPTS AND SKILLS	Descriptive Statements The learner will be assessed on:-
Patterns, Functions and Algebra	Numeric and geometric patterns	Investigate and extend patterns	Investigating and extending numeric and / or geometric patterns looking for relationships between numbers.
	Functions and relationships	Input and output values	Describing and justifying the general rules for relationships between numbers in own words or using algebraic language.
	Algebraic expressions	Algebraic language	Determining input values, output values or rules for patterns and relationships using whole numbers, common fractions and / or decimal fractions in flow diagrams, tables and / or formulae.
			Recognising and interpreting rules or relationships represented in symbolic form.
			Identifying variables and / or constants in given expressions.
	Algebraic equations	Number sentences	Determining the numerical value of an expression by substitution.
	Graphs	Interpreting graphs	Solving and completing number sentences by inspection and / or trial and error.
			Analysing and / or interpreting global graphs of problem situations.

Space and Shape	Geometry of straight lines	Definitions	Defining and / or identifying: <ul style="list-style-type: none"> • a line segment, • a ray, • a straight line, • parallel lines, • perpendicular lines.
	Geometry of 2-D shapes	Classifying 2-D shapes	Describing, sorting, naming and comparing triangles according to their sides and angles focusing on: <ul style="list-style-type: none"> • equilateral triangles, • isosceles triangles, • right-angled triangles.
			Describing, sorting, naming and comparing quadrilaterals in terms of: <ul style="list-style-type: none"> • length of sides, • parallel and perpendicular sides, • size of angles.
			Describing and naming parts of a circle.
	Geometry of 2-D shapes	Similar and congruent 2-D shapes	Identifying and describing the properties of congruent and / or similar shapes.
Problem solving		Solving geometric problems involving unknown sides and / or angles in triangles and / or quadrilaterals, using known properties and definitions.	

CONTENT AREA	TOPICS	CONCEPTS AND SKILLS	Descriptive Statements The learner will be assessed on:-
Measurement	Perimeter and area of 2-D shapes	Perimeter of regular and / or irregular polygons and area of squares, rectangles, and / or triangles	Calculating the perimeter of regular and / or irregular polygons.
			Using appropriate formulae to calculate perimeter and / or area of squares and / or rectangles and / or triangles.
			Solving problems involving perimeter and / or area of squares and / or rectangles and / or triangles.
	Surface area and volume of 3-D objects	Surface area, volume and / or capacity of cubes and / or rectangular prisms	Using appropriate formulae to calculate the surface area and / or volume and / or capacity of cubes and / or rectangular prisms.
			Using equivalence between units when solving problems: $1 \text{ cm}^3 \leftrightarrow 1 \text{ ml}$ $1 \text{ m}^3 \leftrightarrow 1 \text{ kl}$
			Solving problems involving surface area and / or volume and / or capacity.