



## **Education and Sport Development**

Department of Education and Sport Development  
Departement van Onderwys en Sportontwikkeling  
Lefapha la Thuto le Tlhabololo ya Metshameko

**NORTH WEST PROVINCE**

# **NWPA 2018**

## **ASSESSMENT GUIDELINES**

**MATHEMATICS Paper 1**

**GRADE 9**

**This Assessment Guideline has 4 pages including cover page.**

Content Area	Topic	Content and Skills	Description i.e. the learner needs to know or should be able to. . .
<b>Numbers, Operations and Relationships</b>	Whole numbers.	Calculations with whole numbers	<ul style="list-style-type: none"> <li>• Inverse operations</li> <li>• Additive property of zero</li> <li>• Multiplicative property of one</li> <li>• Scientific notation</li> <li>•</li> </ul>
	Integers	Calculation techniques	<ul style="list-style-type: none"> <li>• Addition, subtraction, multiplication, division and other techniques for calculation.</li> </ul>
	Exponents	Problem solving	<ul style="list-style-type: none"> <li>• Solving problems involving                             <ul style="list-style-type: none"> <li>✓ Ratio, rate, speed, distance and time</li> <li>✓ Simple Interest</li> <li>✓ Compound Interest</li> </ul> </li> </ul>

Content Area	Topic	Content and Skills	Description i.e. the learner needs to know or should be able to. . .
<p style="text-align: center;"><b>Numbers, Operations and Relationships</b></p>		<ul style="list-style-type: none"> <li>• Recognising, ordering, comparing and counting</li> <li>• Representation and comparison</li> <li>• Equivalence of common fractions, decimal fractions and percentages.</li> </ul>	<ul style="list-style-type: none"> <li>• Count backwards and forwards for any interval</li> <li>• Squares and square-roots</li> <li>• Cubes and cube-roots</li> </ul>
		<p style="text-align: center;">Problem solving</p>	<ul style="list-style-type: none"> <li>• Solve problems in real life contexts.</li> </ul>
<p style="text-align: center;"><b>Patterns, functions and algebra</b></p>	<p style="text-align: center;">Numeric and Geometric Patterns</p>	<p style="text-align: center;">Investigate and extend patterns</p>	<ul style="list-style-type: none"> <li>• Constant difference and ratio</li> <li>• Tabular representation</li> <li>• Algebraic representation</li> <li>• General Term ( <math>T_n</math> )</li> <li>• Substitution</li> </ul>
	<p style="text-align: center;">Algebraic expressions</p>	<p style="text-align: center;">Algebraic language</p>	<ul style="list-style-type: none"> <li>• Variables, constants, co-efficients, and exponents.</li> <li>• Addition and subtraction of like terms</li> <li>• Addition, subtraction and multiplication of decimal fractions</li> <li>• Operations on algebraic expressions. Monomials, binomials and trinomials.</li> <li>• Division of Monomials, binomials and trinomials with monomials and binomials.</li> <li>• Squares, cubes, square-roots and cube-roots of algebraic expressions. Numerical values of expressions</li> <li>• Factorisation:</li> </ul>

			<ul style="list-style-type: none"> <li>✓ Common factors:                         <ul style="list-style-type: none"> <li>– Numerical</li> <li>– Monomial</li> <li>– Binomial</li> </ul> </li> <li>✓ Linear expressions</li> <li>✓ Trinomials</li> <li>✓ Difference between squares</li> </ul>
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Content Area	Topic	Content and Skills	Description i.e. the learner needs to know or should be able to. . .
<b>Numbers, Operations and Relationships</b>	Algebraic equations	Equations	<ul style="list-style-type: none"> <li>• Solution of equations by                             <ul style="list-style-type: none"> <li>✓ Inspection</li> <li>✓ Additive and multiplicative inverses</li> <li>✓ Exponential laws</li> <li>✓ Factorisation</li> </ul> </li> </ul>
	Functions and relationships	Input and output values and rules	<ul style="list-style-type: none"> <li>• Input and output values by                             <ul style="list-style-type: none"> <li>✓ Tables</li> <li>✓ Formulae</li> </ul> </li> </ul>

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