LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

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MATHEMATICS MEMO ERRATA

MATHEMATICS P1 GRADE 11

Question 2

2.3	2.3.2	$5^x + 15.5^{-x} = 2$ $5^x + 15.\frac{1}{5^x} = 2$ $5^{2x} + 15 = 2.5^x$ $5^{2x} - 2.5^x + 15 = 0$ $\Delta = 2^2 - 4(1)(15) = -56$ $\Delta < 0$ No real values OR $5^x + 15.5^{-x} = 2$ $5^x + 15.\frac{1}{5^x} = 2$ $5^{2x} + 15 = 2.5^x$ $5^{2x} - 2.5^x + 15 = 0$ Let $5^x = k$ $k^2 - 2.\mathrm{k} + 15 = 0$ $k = \frac{2 \pm \sqrt{(-2)^2 - 4(1)(15)}}{2(1)}$t $\Delta < 0$ No real values	✓changing to positive exponents ✓multiplying by the denominator ✓standard form ✓$\Delta < 0$ ✓ No real values OR ✓changing to positive exponents ✓ multiplying by the denominator ✓standard form ✓$\Delta < 0$ ✓ No real values	(5) (5)