JOHN EDMONDSON HIGH SCHOOL
Assessment Notification

Faculty: Mathematics   **Course: Mathematics**   **Year: 8**

Assessment Task: 1   **Assessment Weighting: 20%**   **Due: Term 1, Week 8**

Date: Thursday 21st March for 8T, 8B, 8R, 8U, 8K
          Friday 22nd March for 8O

Task Type: Hand in Task ☐   **In Class Task** ☒   **Practical Task** ☐

Outcomes assessed (NESA)
MA4-ALG-C-01, MA4-IND-C-01, MAO-WM-01 Please Note: Further information about these outcome codes can be found on the NESA Website

Task Description/Overview
This in class written examination will consist of short answer questions. No reference material is allowed during the examination. Time allowed: 45 Minutes (within 1 Period) Equipment Required: Black Pen(s) and a NESA approved calculator.

Detailed Assessment Task Description
Students may be asked questions relating to: **Algebraic techniques:** • Substitute numbers into algebraic expressions and evaluate the result • Identify like terms, and add and subtract them to simplify algebraic expressions • Simplify algebraic expressions that involve multiplication and division • Simplify algebraic expressions involving mixed operations • Explain the role and meaning of grouping symbols in algebraic expressions • Apply the distributive law to expand and simplify algebraic expressions by removing grouping symbols • Identify and list factors of a single term • Factorise algebraic expressions using knowledge of factors and finding the highest common numerical factor (HCF) • Factorise algebraic expressions using knowledge of factors by finding a common algebraic factor, including expressions involving more than 2 terms **Indices:** • Describe numbers written in index form using terms such as base, power, index and exponent • Represent numbers in index notation limited to positive powers • Represent in expanded form and evaluate numbers expressed in index notation, including powers of 10 • Apply the order of operations to evaluate expressions involving indices • Determine and apply tests for divisibility for 2, 3, 4, 5, 6 and 10 • Represent a whole number greater than one as a product of its prime factors, using index notation where appropriate • Use the notations for square root ($\sqrt{}$) and cube root ($\sqrt[3]{}$)

- Recognise and describe the relationship between squares and square roots, and cubes and cube roots for positive numbers
- Verify, through numerical examples, that $\sqrt{ab} = \sqrt{a} \times \sqrt{b}$
- Estimate the square root of any non-square whole number and the cube root of any non-cube whole number, then check using a calculator
- Identify and describe exact and approximate solutions in the context of square roots and cube roots
- Apply the order of operations to evaluate expressions involving square roots, cube roots, square numbers and cube numbers
- Establish the multiplication, division and the power of a power index laws, by expressing each number in expanded form with numerical bases and positive-integer indices
- Verify through numerical examples that $(ab)^2 = a^2 b^2$
- Establish the meaning of the zero index
- Apply index laws to simplify and evaluate expressions with numerical bases

Test/Examination Structure	
Section Description	Marks Available
Algebraic techniques	25
Indices:	25
Total Marks for this task	50

Satisfactory completion of courses

A course has been satisfactorily completed when the student has:
- Followed the course developed/endorsed by the NSW Educational Standards Authority (NESA)
- Applied himself/herself with diligence and sustained effort to the set tasks and experiences provided in the course.
- Achieved some or all of the course outcomes.