ORANGE HIGH SCHOOL

ASSESSMENT TASK NOTIFICATION

Subject	Year 10 Mathematics (Stage 5.3)
Topic	End of Course Examination
Class Teacher	Lummis, Saini
Head Teacher	Ms. Stevenson
Year	10MA1, 10MA2
Date Given	Week 3, Term 4 2020
Date Due	Week 5, Term 4 2020 (Friday, 13/11/20)
Weighting	45%

Assessment Outline (in class test – double period)
Topics and outcomes assessed are:

- **Measurement** (units of measurement, significant figures, accuracy of measurement, Pythagoras' theorem, perimeter and area of simple and composite shapes, surface area and volume of prisms, cylinders, pyramids, cones, spheres.)
- **Surds and Indices** (rational and irrational numbers, simplifying surds, addition, subtraction, division and multiplication of surds, binomial products, rationalising surds, index laws, negative indices, scientific notations, fractional indices.)
- **Probability** (simple probability, venn diagrams, two-way tables, mutually exclusive and non-mutually exclusive, two-step experiments – arrays, tree diagrams and probability trees with and without replacement)
- **Data** (range, mode, mean, median, outliers, the shape of frequency distribution, quartiles and interquartile range, standard deviation, comparing mean and standard deviation, box and whisker plot, parallel box and whisker plot, comparing data sets, scatter plots, line of best fit, bivariate data involving time)
- **Expressions, Equations and Linear Relationships** (language of algebra, substitution, adding, subtracting, multiplying and dividing terms, expanding brackets, factorising algebraic expressions, algebraic fractions, linear equations, linear inequalities, gradient intercept form of a straight line, finding the equation of a straight line, using formulas for distance and midpoint, parallel and perpendicular lines, solving simultaneous equations using substitution and elimination)
- **Trigonometry** (finding missing sides and angles, angles of elevation and depression, bearings, sine rule, cosine rule, area of triangle, angles of any magnitude, exact trigonometric ratios, graphs of sine, cosine and tangent ratios)
- **Quadratic Expressions and Quadratic Equations** (expanding and factorising expressions, factorising monic and non-monic quadratic trinomials, factorising by completing the square, solving quadratic equation by factorising, completing the square and with the quadratic formula)
- **Non-linear Relationships, functions and their graphs** (exploring parabolas, sketching parabolas using transformations, factorisation, by completing the square and the quadratic formula and the discriminant)

Required equipment
- Black or Blue pen or pencil
- Scientific calculator

Non-completion of Task:
If you know you are going to be away on the day that the task is due, you must make alternative arrangements with your teacher beforehand. If you are suddenly away on the day that the task is due, you must contact your teacher or Head Teacher on your return to school. Documentation will be required in both cases.

Outcomes Assessed

MA5.3-1WM: uses and interprets formal definitions and generalisations when explaining solutions and/or conjectures

MA5.3-2WM: generalises mathematical ideas and techniques to analyse and solve problems efficiently

MA5.3-3WM: uses deductive reasoning in presenting arguments and formal proofs

MA5.2-11MG: calculates the surface areas of right prisms, cylinders and related composite solids

MA5.2-12MG: applies formulas to calculate the volumes of composite solids composed of right prisms and cylinders

MA5.3-13MG: applies formulas to find the surface areas of right pyramids, right cones, spheres and related composite solids

MA5.3-14MG: applies formulas to find the volumes of right pyramids, right cones, spheres and related composite solids

MA5.3-15MG: applies Pythagoras' theorem, trigonometric relationships, the sine rule, the cosine rule and the area rule to solve problems, including problems involving three dimensions

MA5.3-5NA: a student solves linear and simple quadratic equations, linear inequalities and linear simultaneous equations, using analytical and graphical techniques.

MA5.3-6NA: performs operations with surds and indices

MA5.3-7NA: a student solves complex linear, quadratic, simple cubic and simultaneous equations, and rearranges literal equations.

MA5.2-7NA: applies index laws to operate with algebraic expressions involving integer indices

MA5.3-8 NA: uses formulas to find midpoint, gradient and distance on the Cartesian plane, and applies standard forms of the equation of a straight line

MA5.3-9NA: sketches and interprets a variety of non-linear relationships

MA5.1-12SP: uses statistical displays to compare sets of data, and evaluates statistical claims made in the media

MA5.1–13SP: calculates relative frequencies to estimate probabilities of simple and compound events.

MA5.2-15SP: uses quartiles and box plots to compare sets of data, and evaluates sources of data

MA5.2-16SP: investigates relationships between two statistical variables, including their relationship over time

MA5.2–17SP: describes and calculates probabilities in multi-step chance experiments

MA5.3-18SP: uses standard deviation to analyse data

MA5.3-19SP: investigates the relationship between numerical variables using lines of best fit, and explores how data is used to inform decision-making processes