

Assessment Notification



Course	Year 10 Mathematics
Task	Task 1
Date and time	Week 9, Monday March 27
Time allowed	50 minutes (2 minutes reading time)
Weighting	15%
Nature of task	In class test (examination style), approved calculators allowed

Topics and outcomes	Algebra and Linear Relationships MA5.2/5.3-6NA Simplifies algebraic fractions and expands/factorises quadratic expressions MA5.2/5.3-8NA Uses formulae to find mid-point, gradient and distance on Cartesian plane MA5.2/5.3-8NA Solves linear and simple quadratic equations, linear inequalities using analytical and graphical techniques MA5.2/5.3-9NA uses gradient intercept form to interpret and graph linear relationships. Congruent and Similar Triangles MA5.2-14MG Find the angle sum of a polygon and uses minimum conditions to prove triangles are congruent or similar. MA5.3-16MG prove triangles are similar; use formal geometric reasoning to establish properties of triangles and quadrilaterals Indices Review and Basic Surds MA5.1-6NA operates with algebraic expressions with positive-integer and zero indices and establishes meaning of negative indices for numerical bases. MA5.2-7NA Applies index laws to operate with algebraic expressions involving integer indices MA5.2-7NA Performs operations with surds and indices
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Course text **Signpost 10**

Topics content and text references

PATHWAYS A and B

Algebra and Linear Relationships Chapter 1 (1.02, 1.06, 1.08) Chapter 7 (7:01, 7:02 and 7:02)

Students are expected to:

- Expand and factorise algebraic (HCF) expressions including terms involving terms with indices and/or negative coefficients
- Simplify expressions that involve algebraic fractions with numerical denominators
- Solve linear equations including the application to real world problems
- Solve linear inequalities and graph the solutions on the number line
- Find mid-point, gradient and distance on Cartesian plane using the appropriate formulae or other methods
- Graph and interpret linear relationships; sketch these relationships
- Solve problems involving parallel and perpendicular lines

Congruent and Similar Triangles Chapter 3 (3:01 to 3:06) Chapter 10 (10.1, 10.2 and 10.3)

Students are expected to:

- Solve problems and provide formal proofs involving parallel lines, congruent and similar triangles
- Use enlargement and reduction transformations to develop the conditions for triangles to be similar
- Similar Triangles proofs use 2 equal angles in both triangles, corresponding sides in the same ratio
- Solve problems involving similarity of length, area and volume

Indices and Surds Review Chapter 1 (1:05) Chapter 5 (5:01 to 5:05)

Students are expected to:

- Fully simplify expressions with positive, negative and zero indices with both numerical and algebraic bases

PATHWAY A ONLY

- Solve problems involving parallel and perpendicular lines
- Solve problems involving similarity of length, area and volume
- Factorise algebraic expressions involving difference of 2 squares, trinomials, non-monic trinomials and grouping
- Simplify surds so the surd is in its simplest form
- Add subtract and multiply surds including binomial expansion of surd