



# MOUNT ANNAN HIGH SCHOOL ASSESSMENT TASK NOTIFICATION

<b>FACULTY</b>	Mathematics	<b>COURSE</b>	Standard 1	<b>YEAR</b>	12
<b>TASK NUMBER</b>	1	<b>TASK NAME</b>	Take Home Assignment		
<b>TASK WEIGHT</b>	25%	<b>MARKS AWARDED</b>	50		
<b>DATE OF NOTIFICATION</b>	9/12/2024				
<b>DUE DATE</b>	20/2/2025				

## TASK DESCRIPTION / INSTRUCTIONS

- The task will be a research task
- You need to complete this task on or before 20th February 2025.
- You need to answer all the questions. ALL working must be shown.
- If for some reason you cannot submit the task on the day you need to contact Mr Essex and submit a misadventure form.

This assessment task will assess your knowledge of the following topics:

- Energy
  - Energy consumption and costs
  - Interpreting energy ratings of household appliances and comparing running costs
- Right angled Trigonometry
  - Using the trig ratios to find an unknown side or angle
  - Angles of elevation and depression to bearings
  - Traverse Surveys
- You need search some web sites for this assignment.
- Answer ALL questions in the Assignment booklet online or on paper

## Discriminating Feature of Band 5 or 6 Mathematics

Applies problem-solving strategies to a wide range of contexts.

## OUTCOMES

### MS1-12-3

interprets the results of measurements and calculations and makes judgements about their reasonableness

### MS1-12-4

analyses simple two-dimensional and three-dimensional models to solve practical problems

### MS1-12-9

chooses and uses appropriate technology effectively and recognises appropriate times for such use

### MS1-12-10

uses mathematical argument and reasoning to evaluate conclusions, communicating a position clearly to others



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### Achievement Level Descriptions Mathematics Standard 1

<b>A</b>	<ul style="list-style-type: none"> <li>• selects and uses appropriate mathematical concepts, skills and techniques in a range of familiar and unfamiliar contexts</li> <li>• uses a variety of problem-solving strategies to solve mathematical problems</li> <li>• applies thorough reasoning to construct mathematical arguments</li> <li>• uses symbols, numbers, words, diagrams and graphs to communicate mathematical ideas and relationships</li> <li>• analyses information given in symbolic, tabular or graphical form to make predictions, inferences and draw conclusions</li> <li>• carries out stated statistical processes to interpret and compare data</li> <li>• solves problems involving statistical analysis</li> <li>• identifies and uses appropriate formulae to solve a problem in financial mathematics</li> <li>• applies network techniques to solve problems</li> </ul>
<b>B</b>	<ul style="list-style-type: none"> <li>• selects and uses mathematical concepts, skills and techniques in familiar and some unfamiliar contexts</li> <li>• uses some problem-solving strategies to solve mathematical problems</li> <li>• applies reasoning to construct mathematical arguments</li> <li>• uses symbols, numbers, words, diagrams and graphs to communicate mathematical results</li> <li>• applies information given in diagrammatic, tabular or graphical form to make some predictions, inferences and draw conclusions</li> <li>• calculates summary statistics of a dataset</li> <li>• solves some problems involving statistical analysis</li> <li>• performs calculations in financial mathematics that involve substitution into a given formula</li> <li>• performs simple network techniques to solve problems</li> </ul>
<b>C</b>	<ul style="list-style-type: none"> <li>• uses mathematics concepts, skills and techniques in familiar contexts</li> <li>• uses problem-solving strategies to solve problems with limited accuracy</li> <li>• presents steps in sequence in the construction of simple mathematical arguments</li> <li>• uses numbers, words, diagrams and graphs to communicate mathematical results</li> <li>• uses information given in diagrammatic, tabular or graphical form to assist in solving problems</li> <li>• identifies the type of correlation between two datasets</li> <li>• performs calculations involving statistics</li> <li>• performs calculations in financial mathematics</li> <li>• demonstrates sound understanding of the language of networks</li> </ul>
<b>D</b>	<ul style="list-style-type: none"> <li>• demonstrates basic knowledge and understanding of mathematics concepts, skills and techniques in limited familiar contexts</li> <li>• presents two steps in the correct order in the construction of a simple mathematical argument</li> <li>• uses numbers, words, simple diagrams and graphs to communicate mathematical results</li> <li>• uses information given in a simple diagrammatic, tabular or graphical form to assist in solving problems</li> <li>• identifies correlation between two datasets</li> <li>• performs simple probability calculations to solve problems</li> <li>• performs some basic calculations in financial mathematics with limited accuracy</li> <li>• demonstrates basic understanding of the language of networks</li> </ul>
<b>E</b>	<ul style="list-style-type: none"> <li>• demonstrates elementary knowledge and understanding of mathematics concepts, skills and techniques in limited familiar contexts</li> <li>• identifies a step in the construction of a simple mathematical argument</li> <li>• draws limited diagrams from given clear instructions</li> <li>• reads information from a simple diagram or table to assist in solving a problem</li> <li>• displays elementary skills in performing calculations in financial mathematics</li> <li>• demonstrates limited understanding of the language of networks</li> </ul>



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### Performance Band Descriptions for Mathematics Standard 1

<b>Band 6</b>	<ul style="list-style-type: none"> <li>• Demonstrates extensive knowledge and skills appropriate to the course</li> <li>• Applies appropriate mathematical concepts, skills and techniques consistently and accurately in familiar and unfamiliar contexts</li> <li>• Selects and uses a variety of problem-solving strategies to solve mathematical problems</li> <li>• Applies mathematical reasoning and interprets mathematical models</li> <li>• Communicates effectively using appropriate mathematical notation, diagrams and graphs</li> </ul>
<b>Band 5</b>	<ul style="list-style-type: none"> <li>• Demonstrates thorough knowledge and skills appropriate to the course</li> <li>• Applies appropriate mathematical concepts, skills and techniques consistently in familiar contexts</li> <li>• Selects and uses some problem-solving strategies to solve mathematical problems</li> <li>• Uses mathematical reasoning and interprets familiar mathematical models</li> <li>• Communicates using appropriate mathematical notation, diagrams and graphs</li> </ul>
<b>Band 4</b>	<ul style="list-style-type: none"> <li>• Demonstrates sound knowledge and skills appropriate to the course</li> <li>• Uses mathematical concepts, skills and techniques in familiar contexts</li> <li>• Selects and uses problem-solving strategies to solve mathematical problems with limited success</li> <li>• Uses mathematical reasoning</li> <li>• Communicates using mathematical notation, diagrams and graphs</li> </ul>
<b>Band 3</b>	<ul style="list-style-type: none"> <li>• Demonstrates basic knowledge and skills appropriate to the course</li> <li>• Uses a limited range of mathematical concepts, skills and techniques</li> <li>• Uses some mathematical reasoning</li> <li>• Uses mathematical notation, diagrams and graphs</li> </ul>
<b>Band 2</b>	<ul style="list-style-type: none"> <li>• Demonstrates limited knowledge and skills appropriate to the course</li> <li>• Uses minimal mathematical techniques</li> <li>• Uses some simple mathematical notation or diagrams</li> </ul>
<b>Band 1</b>	