Learning Area:	**Mathematics**
Extension Certificate Title:	**Building & Construction Certificate**
Task Details:	**Stage 1:** To investigate housing market and make an informed decision on buying land and building a home for residence. The key factors to be considered in this process are: • Finance/Mortgage • Location • Affordability • Current & Future housing market • Inflation in rates **Task:** You are employed full time and currently earn $87,000 and your partner earns $23,000 part time. You have had your first child and you have one on the way. You are renting at the moment and wish to purchase a property and build your dream home. You have already saved $30,000 and you are a first-time buyer (you may be eligible for government grants). Your task is to locate a property and finance the building of your new home. You need to design and cost your project. Submit your research work through a digital presentation or video recording.
Victorian Curriculum Content Descriptors:	• Solve problems involving the surface area and volume of right prisms (VCMMG314) • Use the enlargement transformation to explain similarity and develop the conditions for triangles to be similar (VCMMG316) • Solve problems using ratio and scale factors in similar figures (VCMMG317) • Develop the formulas for volumes of rectangular and triangular prisms and prisms in general. Use formulas to solve problems involving volume (VCMMG289) • Investigate Pythagoras' Theorem and its application to solving simple problems involving right angled triangles (VCMMG318) • Apply trigonometry to solve right-angled triangle problems (VCMMG320) • Solve problems involving the use of percentages, including percentage increases and decreases and percentage error, with and without digital technologies (VCMNA276) • Solve a range of problems involving rates and ratios, including distance-time problems for travel at a constant speed, with and without digital technologies (VCMNA277)

	• Solve problems involving profit and loss, with and without digital technologies (VCMNA278) • Solve problems involving simple interest (VCMNA304) • Connect the compound interest formula to repeated applications of simple interest using appropriate digital technologies (VCMNA328) • Graph simple non-linear relations with and without the use of digital technologies and solve simple related equations (VCMNA311) • Plot graphs of non-linear real life data with and without the use of digital technologies, and interpret and analyse these graphs (VCMNA285)	
Resources Required:	Excel Internet to research data sets Graphics Calculator	

Assessment Criteria Rubric

(Please note this is an 80% pass rate. If you would like to resubmit you have 7 days to do so)

	5	4	3	2	1
Research	Shows evidence of good research from multiple authenticated sources. All sources are well documented.	Shows evidence of reasonable research from multiple authenticated sources. Most sources are well documented.	Shows some evidence of research from varying sources. Most sources are well documented.	Shows very little evidence of reasonable research from varying sources. Some sources are documented.	Shows very little evidence of reasonable research from varying sources. Some sources are documented.
Presentation	Presentation flows well and logically. Presentation reflects extensive use of tools in a creative way. Images are appropriate. No spelling errors. No grammar errors. Text is in authors' own words. An excellent professionalism is evident.	Presentation flows well and logically. Presentation reflects extensive use of tools in a creative way. Images are appropriate. No spelling error s. No grammar errors. Text is in authors' own words. A good professionalism is evident.	Presentation flows well and logically. Presentation reflects extensive use of tools in a creative way. Images are appropriate. No spelling errors. No grammar errors. Text is in authors' own words.	Presentation flows well and logically. Tools are used correctly. Images are appropriate. No spelling errors. No grammar errors. Text is in authors' own words.	Presentation flows well. Some tools are used to show acceptable understanding. Most images are appropriate. Some spelling errors. Some grammar errors. Most of text is in authors' own words.

Mathematics and calculation	Mathematical terms, symbols and formulas are used appropriately and are often elaborated upon. Thorough analysis of the problem with accurate solutions.	Mathematical terms, symbols and formulas are used appropriately. Good analysis of the problem with accurate solutions.	Mathematical terms, symbols and formulas are used appropriately. Analysis of the problem is evident, considerable accuracy.	Some mathematical terms, symbols and formulas are used correctly. Analyses the problem with some success, accuracy needs to improve.	Mathematical terms, symbols and formulas use are weak, not enough references to mathematical terms are used. Very little evidence of analysis. Some educated guesses. Accuracy is weak.
Problem solving	An efficient strategy is chosen. Adjustments in strategy, if necessary, are made along the way, and/or alternative strategies are considered. Evidence of analysing the situation in mathematical terms and extending prior knowledge is present.	A correct strategy is chosen. Adjustments in strategy, if necessary, are made along the way. Evidence of analysing the situation in mathematical terms and applying it to the problem-solving situation is present.	A correct strategy is chosen based on the mathematical situation in the task. Evidence of solidifying prior knowledge and applying it to the problem-solving situation is present.	A correct strategy for only solving part of the task is chosen. Evidence of drawing on some relevant previous knowledge is present, showing some relevant engagement in the task.	A partially correct strategy is chosen, little evidence of engagement in the task is present
Use of technology	Very poor use of technology	Poor use of technology.	Some use of technology is evident.	Extensive use of technology that is shown in different ways, graphs tables, the use of a graphical calculator.	Evidence of use of technology relevant to the task.