

Subject: 12 Mathematics Standard 1	Task Number: 3
Type of Task: Investigation: Investments, Depreciation and Loans	Coordinating Teacher: Bill Shannon Cooperating Teacher: Linda Forrester
Date Issued: Term 2 Week 6 Friday June 7th 2024	Date Due: Term 2 Week 9 Monday 24th June 2024
Total Marks: 40	Weighting: 25%

Submission Instructions: *Students are to email assessment to westernlap@det.nsw.edu.au prior to 9.00am on Monday 24th June, 2024.*

Email subject: Lastname, First Initial, Subject, Task Number

For example: *ShannonWMathsStandard1AT3*

Please save your document in PDF format before emailing.

Task Context:

In this topic you have learnt:

To calculate Simple Interest and apply the simple interest formula.

To recognise that Compound Interest is the repeated application of simple interest and apply the compound interest formula.

To calculate Present Value as the amount needed at the outset to achieve a particular Future Value.

To understand the principle of declining balance depreciation and apply the declining balance formula.

To understand the principles of reducing balance loans and whole of loan interest and to calculate repayments using a repayment table or graph.

To understand that credit card providers differ in fees charged and interest free periods.

To understand that credit cards apply interest compounded daily on the outstanding balance.

In this task you will participate in a scenario in which you will use mathematical processes to calculate a number of aspects of the purchase of a house. You will use the calculations used in class as well as information gained from real estate and financial websites.

You will submit your calculations and evidence of the particular information gathered from the internet in a cohesive document following the outline in the template provided.

You will be emailed the template as a word document. Your responses are to be inserted into the dialog boxes provided. You will need to manage the document so that a dialog box is on the same page as the question it is responding to. The submitted document should be formatted to be suitable for printing

The word document is to be saved in pdf format prior to submission.

Syllabus Outcomes:

MS1-12-5 makes informed decisions about financial situations likely to be encountered post-school.

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.

Criteria for Assessing Learning

Students will be assessed on their ability to:

1. Label and set out the calculations required to explain their conclusions.
2. Apply the formulae for interest rate calculations, including simple interest, compound interest present value and declining balance depreciation.
3. Navigate financial websites, extract appropriate information and record the URL and date accessed.

Task Description:

You will research as required and complete the attached questions related to the purchase of a home and to related financial decisions. You will complete the question related to the salvage value of a car.

HSC Key Verbs

Calculate: Ascertain/determine from given facts, figures or information.

Compare: Show how things are similar or different.

Evaluate: Determine the value of.

Justify: Support an argument or conclusion.

Synthesise: Putting together various elements to make a whole.

NESA "All My Own Work"

By signing for this assessment task and having completed the NESA course "All My Own Work" I confirm that this assessment task will be free from plagiarism and reflective of my own work. I understand that if I am found to have plagiarised or engaged in malpractice, I will be referred to the HT Access to engage the LAP Malpractice process.

Marking Guidelines:

Marking Guidelines	Mark
<ul style="list-style-type: none"> • Has all required screenshots, suitably labelled. • Provides accurate documentation, calculations and justifications supporting responses for all sections. • Appropriately applies the formula to calculate Present Value for an anticipated future amount. • Searches and applies conditions accurately for an online calculator for home loans and repayments. • Extracts information accurately from online calculators and compare the effect after changing variables. • Annualise recurrent costs and accurately find the total cost of purchase. • Accurately calculate all effects of credit card conditions on a purchase • Accurately determine salvage value using declining balance depreciation. 	<p>A 36-40</p>
<ul style="list-style-type: none"> • Has all required screenshots, mostly suitably labelled. • Provides documentation, calculations and justifications supporting responses for all sections. • Applies the formula to calculate Present Value for an anticipated future amount. • Searches and applies conditions for an online calculator for home loans and repayments. • Extract most repayment information from online calculators and compare the effect after changing variables. • Annualise recurrent costs and find the total cost of purchase with minor errors. • Calculate effects of credit card conditions on a purchase • Determines the salvage value using declining balance depreciation 	<p>B 28-35</p>
<ul style="list-style-type: none"> • Has required screenshots of comparison rate calculator and mortgage repayments lacking clear labelling. • Provides some documentation, calculations and justifications supporting responses. • Uses the formula to calculate Present Value for an anticipated future amount with possible misinterpretation of rate or terms. • Uses online calculator for home loans and repayments with possible misinterpretation of entries. • Extract information from online calculators with possible misinterpretation of evidence. • Annualise recurrent costs but miss elements in summing total cost of purchase. • Calculate effects of credit card conditions on a purchase with errors in period of interest • Determine salvage value using declining balance depreciation with errors in number of terms or rate 	<p>C 16 - 27</p>

<ul style="list-style-type: none"> • Has required screenshots of comparison rate calculator and mortgage repayments with errors in entry data or labelling. • Provides limited documentation, calculations and justifications supporting responses. • Presents a calculation for Present Value for an anticipated future amount. • Uses an online calculator for home loans and repayments with input errors. • Misinterprets information for comparison of repayments. • Errors on recurrent costs but sums cost of purchase. • Calculate effects of credit card conditions on a purchase with errors in period of interest or rate • Determine salvage value using declining balance depreciation with errors in number of terms or rate / or not using declining balance. 	<p>D 8 - 15</p>
<ul style="list-style-type: none"> • Screenshots essential to comparison erroneous or missing. • Provides little or no documentation, calculations and justifications supporting responses. • Limited or no application to the Present Value calculation • No or inaccurate use of an online calculator for home loans and repayments. • Does not extract or compare the impact of changing payments. • Does not annualise insurance and rates and/or does not sum total cost of purchase. • Calculate effects of credit card conditions on a purchase with errors in period of interest • Does not determine salvage value or uses declining balance depreciation with errors in number of terms or rate/ or not using declining balance 	<p>E 0 - 14</p>

Feedback:

Teacher Signature: _____

Date: _____