



# Chester Hill High School

Strength in Unity, Excellence in Education

## Assessment Task

<b>Course:</b>	Mathematics 5.2/5.3	<b>Year 10</b>			
<b>Topic:</b>	Financial Mathematics				
<b>Assessment Name:</b>	Shopping on Terms				
<b>DATE DUE:</b>	Term 1, Week 7B on Monday 11/3/19 at the beginning of period 5	<b>Total mark</b>	/	<b>Grade</b>	
<b>STUDENT NAME:</b>					
<b>Progress Check FEEDBACK</b>	<input type="checkbox"/> Task 1-Found and attached an item including the price				
	<input type="checkbox"/> Task 2-Found and attached an item including the price				
	<input type="checkbox"/> Task 4-Answered half the Literacy questions				
<b>Progress Check Date:</b>	Term 1 Week 6A on Monday 4/3/19				

I certify that

- This assignment is my own work, based on my personal study and/or research.
- I have **acknowledged all material and sources used in the preparation** of this assignment in a **reference list**.
- Submitted assignments based on group work are not the same as other students' work.
- I have not plagiarised (copied) in part, or in whole the work of other students.
- I have read and I understand the success criteria used for this assessment
- **I have kept a copy of my assignment and the receipt.**
- I understand that a copy of my assignment may be kept and used to make comparisons with other assignments in the future.

Student's Signature: ..... Date: .....

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### Assessment Task Student Receipt

*(This receipt should be kept as proof of assessment submission)*

<b>FAMILY NAME:</b>	<b>GIVEN NAME:</b>
<b>TEACHER:</b>	<b>CLASS:</b>
<b>DATE DUE:</b>	<b>DATE SUBMITTED:</b>
<b>TITLE OF TASK:</b> Shopping on Terms	<b>TEACHER'S SIGNATURE:</b>

## Task Information

<b>Important idea(s) being explored:</b>	<b>5.1</b>	Solves financial problems involving earning, spending and investing money
	<b>5.2/5.3</b>	Solves financial problems involving compound interest
<b>Task Requirements:</b>	You are required to investigate and compare the costs associated with buying an item on terms and taking out a small loan, using various forms of simple and compound interest. Students attempting the 5.3 course will complete an in-class validation task on the date the assignment is due. You will also be required to complete the 'Feedback from student about task' section below.	
<b>Syllabus Outcomes:</b>	<ul style="list-style-type: none"><li>&gt; MA5.1-4NA: solves financial problems involving earning, spending and investing money</li><li>&gt; MA5.1-2WM: selects and uses appropriate strategies to solve problems</li><li>&gt; MA5.1-3WM: provides reasoning to support conclusions that are appropriate to the context</li><li>&gt; MA5.2-4NA: solves problems involving compound interest</li><li>&gt; MA5.2-1WM: selects appropriate notations and conventions to communicate mathematical ideas and solution</li><li>&gt; MA5.2-2WM: interprets mathematical or real-life situations, systematically applying appropriate strategies to solve problems</li></ul>	

Please complete the student feedback task below.

### Feedback from student about task:

I spent \_\_\_\_\_ hours working on this task.

The hardest part of this task was \_\_\_\_\_

The easiest was \_\_\_\_\_

What I have enjoyed most about learning in *MATHEMATICS* is \_\_\_\_\_

Learning in *MATHEMATICS* could be improved if:

\_\_\_\_\_  
\_\_\_\_\_

Dear teacher, I need help in the following areas:

\_\_\_\_\_  
\_\_\_\_\_

## Success Criteria

Outcome	E	D	C	B	A
<b>Task 1: Buying an expensive item on terms</b> Questions 1-4	- Chooses an item to buy and records the details of the item, providing a picture as evidence.  - Option 1 completed correctly.	-Correctly answers basic questions - Options 2 & 3.	- Chooses one of the options for question 4 & provides a reason for the choice.		
<b>Task 2: Taking out a small loan</b> Questions 1-4	- Investigates the cost of taking out a personal loan worth between \$5000 and \$10 000 & records the details of the item, providing a picture as evidence.	-Correctly answers basic questions - Option 1.	-Correctly answers sound questions - Options 2 & 3.  - Chooses one of the options for question 4 & provides a reason for the choice.	5.2-Correctly completes options 1, 2 & 3 in validation task using any value to investigate.  -Chooses best option for question 1 in validation task providing a reason	5.3- Correctly completes options 1, 2 & 3 in validation task using a general expression to investigate.  -Chooses best option for question 1 in validation task providing a reason.
<b>Task 3 (5.2 &amp; 5.3 only): Investigating personal loans</b> Questions 1 & 2			-Option 1 completed correctly.  - Chooses one of the options for question 2 & provides a reason for the choice.	-Options 2 & 3 completed correctly.	
<b>Task 4: Other purchasing options</b> Questions 2-4	-Question 2a & e answered correctly.  -Lists zero to one advantage and/or disadvantage for question 3a.  -Question 4b (ii)-all three pros listed.	-Identifies three things that are issues for young people for questions 2b.  -Correctly answers basic questions- 2d, 4a, b(iii).  -Lists two to three advantages and/or disadvantages for question 3a.	-Question 2c correctly explained.  -Lists four advantages and/or disadvantages for question 3a.  -Opinion given for Question 3b with justification for it  -Correctly interprets terms & conditions of Afterpay and works out correct late fee- Question 4b (iii) & (iv)-5.3 only.	-Equivalent interest rate calculated correctly for question 4b (v).	

## Yr 10 Grading Sheet for Reference

Report Grades	E	D	C	B	A
<b>Financial Mathematics</b>	<p>Identify the correct formula for simple interest.</p> <p>Identify <math>p</math>, <math>r</math> and <math>n</math> in a worded problem.</p>	<p><b>Calculates simple interest.</b></p> <p>Calculates simple interest with different time periods.</p>	<p>Uses the given compound interest and depreciation formulas to solve simple problems.</p> <p>Solves questions related to Buying on Terms.</p> <p>Solves for <math>P</math>, <math>r</math>, <math>n</math> in simple interest formula.</p>	<p><b>Applies the compound interest formula to solve financial mathematics problems, including those involving depreciation.</b></p> <p>Uses compound interest formula for various compounding periods.</p>	<p>Solves for <math>r</math> in the compound interest formula.</p> <p>Finds the time period using the compound interest formula.</p> <p>Compares and evaluates differences between applying simple or compound interest over various time periods.</p>

### FEEDBACK from Teacher:

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Completion of assessment during allocated class time.  Excellent  Moderate  Limited

<b>Teacher Signature</b>		<b>Mark</b>	
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<b>Task 1:</b>	<b>Buying an expensive item on terms</b> ( <i>continued</i> )
<b>3.</b>	<p>Investigate the cost of purchasing your item on the following terms:</p> <p><b>Option 1:</b> No deposit. \$10 per week for 2 years.</p> <p><b>Option 2:</b> 10% deposit plus \$40 per month for 2 years.</p> <p><b>Option 3:</b> 15% deposit plus \$18 per fortnight for 2 years.</p>
<b>4.</b>	Which option would you choose? You <u>must</u> give a reason for your answer.

<b>Task 2:</b>	<b>Taking out a small loan</b>
<b>1.</b>	Investigate the cost of taking out a personal loan for something worth between \$5 000 and \$10 000. <i>e.g.</i> A small car, a holiday, musical or sporting equipment.
<b>2.</b>	<p>Record the details of the item below:</p> <p><b>Full name of item (Brand, item, model):</b></p> <p>_____</p> <p><b>Price:</b> _____</p> <p><b>Image of Advertisement:</b></p> <p>[Copy and paste a picture of the <b>full advertisement</b> of the item from a catalogue, brochure or website in this space. You ad <u>must</u> have a picture of the item and its cost.]</p>

<b>Task 2:</b>	<b>Taking out a small loan</b> ( <i>continued</i> )
<b>3.</b>	<p>Investigate the cost of purchasing your item on the following terms:</p> <p><b>Option 1:</b> Borrowed over 5 years at 6% p.a. simple interest</p> <p><b>Option 2:</b> Borrowed over 4 years at 4.5% p.a. interest compounded annually</p> <p><b>Option 3:</b> Borrowed over 5 years at 4% p.a. interest compounded annually</p>
<b>4.</b>	<p>Which option would you choose? You <u>must</u> give a reason for your answer.</p>

<b>Task 3:</b>	<b>Investigating personal loans</b>
<b>1.</b>	<p>Three different bank accounts offer very similar deals on their personal loans. Consider the following options and determine which one provides the best value for money.</p> <p><b>Option 1:</b> Borrowed over 5 years at 4% p.a. interest compounded annually</p> <p><b>Option 2:</b> Borrowed over 5 years at 3.8% p.a. interest compounded monthly</p> <p><b>Option 3:</b> Borrowed over 5 years at 3.7% p.a. interest compounded daily (<i>Assume 365 days per year</i>)</p>
<b>2.</b>	Which is the best option? You <u>must</u> give a reason for your answer.

1.

Read the following article *The credit trap that's crippling a generation*.

money **budgeting**

## The credit trap that's crippling a generation

THERE'S a good reason "real" adulthood seems to be starting later and later. And it's down to easy access to credit.

Louisa Simmonds

news.com.au AUGUST 20, 2018 8:50AM

WE'VE all done it.

At some stage of our lives, all of us have overspent and found ourselves in debt. If we were lucky enough, the 'bank of Mum and Dad' bailed us out; if not, we paid the consequences.

But many people in their 20s and 30s today are faced with temptation their parents never had to deal with.

Easy credit is everywhere. And it's all too tempting to take it, especially when you feel you'll never be able to buy a house anyway.

Craig Garbler from Sterling Debt Advisory believes this credit is a trap anyone can fall into.

"Credit and credit cards provide opportunities to meet temptations and match peer pressure ... and online shopping provides ease of access and anonymity" he told news.com.au.

Tony Ibrahim from Choice.com.au agrees: "There are concerns that Afterpay normalises debt", he said recently.

And that means many young adults are delaying responsibilities, by purchasing stuff they really can't afford, incurring crippling debt and delaying their *real* adulthood.

One of the people I spoke with for this article, Pippa, said she has been pulled into serious debt all too easily.

After dropping out of school as a result of mental health issues, she found herself depressed, anxious and with no real sense of purpose. Over-spending made her feel better about her situation.

"I was living each day to the fullest, doing anything to make Pippa happy because I truly believed that future Pippa wouldn't exist."

This included clothes, food, gifts for her family, Ubers, and paying for an extended holiday.

The combined cost put her so far in the red that she knew there was no way to climb out.

MORE IN MONEY ^

"I would wake up and find shopping confirmation emails of over \$500 and hardly remember the transactions.

"When I applied for a new bank credit card, I requested a \$1500 limit, but accidentally typed in \$15,000. They rejected my request and offered me \$4000 instead."

Pippa was fortunate when a payout as the injured party of a minor car accident alleviated her debt. Sadly, that's not how most of these stories end.



It's all too easy to get into debt with a series of relatively small purchases. Source: Supplied

- **Targeting** — Young adults are bombarded by marketing from social media. Digital marketing is big business because it works, particularly with those customers with a sense of entitlement or who are vulnerable. Online shopping makes it feel like Christmas every day. Every other image on Instagram is an advertisement and our Facebook feeds are full of targeted ads.

- **Compulsion** — Some kids have a genuine mental health problem with spending. Oniomania and Compulsive Buying Disorder are now seen as bona fide medical conditions being diagnosed for people that spend compulsively: to cheer themselves up, as rewards, to reduce negative emotions. Overspending is much more common in girls and in kids with low self-esteem issues, personality disorders, poor impulse control and OCD.

- **Disillusionment** — Young people are feeling disillusioned that they can't have what their parents had — such as affordable housing and free education. Some visualise a bleak future that involves climate change, the improbability of ever owning their own property and the albatross around their neck of university debts. Spending makes them feel better.

### **The problem is that overspending discourages financial independence**

'Helicopter' and 'lawnmower' parenting encourage these spending habits and discourage teaching young adults to live within their means. Aware that their kids are struggling to afford housing costs in the cities, many parents are enabling their kids by allowing them to live at home longer in order to save. But many of them aren't saving. They are spending their income on gyms, Ubers, new technology and eating out, acquiring a level of debt that will prevent them from ever being financially independent enough to pay rent.

And parents are picking up the slack. Their kids' debt is forcing them to cohabit with them beyond the normal length of time, meaning that they can't downsize and may even have to postpone their retirement. In the worst cases, parents are settling their kids' debts, which impacts their own future spending power.



If you find yourself spending all your cash and more each month, it's time to take stock, and start sticking to a budget. Source: Getty Images

Fortunately, there are services out there that can help people that find themselves in an unmanageable level of debt. As Craig goes on to say, 'Parents, or perhaps your parents' accountant or trusted and valued family members can help. You can also speak to in-house financial advisers, where an initial counselling service is often free.'

Communication is the key to resolving problems like these, rather than leaving them to fester in the hope that they'll disappear. It is important to keep the communication line open with your bank or your lenders.

As Lifeline says, "Many services are happy to give you payment extensions if you call them."

All of us have made mistakes in our journey to financial independence and most of us are lucky that they happen before serious legal and financial ramifications.

- Louisa Simmonds is a freelance journalist. She writes the blog *My Midlife Mayhem*

2.

Answer the following questions:

a) Why are people in their 20's and 30's faced with temptation their parents never had to deal with?

b) What are three things that this article identifies as issues for young people with regards to spending.

c) Consider this section of the article:

*'The combined cost put her **so far in the red** that she knew that there was no way to climb out.'*

What does the bolded expression from the above statement mean?

d) How does overspending in young adults affect parents in today's society?



4.

a) Consider this section of the article:

*Tony Ibrahim from Choice.com.au agrees: "There are concerns that **Afterpay normalises debt**", he said recently.*

What does he mean by this statement?

b) The icon below is the Afterpay icon you may have seen online or at the shops.



Afterpay is a digital service that makes it possible to buy something now and pay it off in **fortnightly** instalments. Unlike lay-by, you receive the product right away, whether you're shopping online or in-store. In the best scenarios you will pay nothing more.

- (i) Go to the website [www.afterpay.com](http://www.afterpay.com) and read through the terms and conditions.
- (ii) List three pros to using Afterpay.

(iii) What happens if you don't make your repayments on time?

(iv) If you were two weeks late with all four repayments on the item you chose in task 1, how much extra would you have to pay?

(v) What would be the equivalent annual interest rate?

End of Assignment