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SCHOOL NO. ☐☐☐☐☐·☐☐

STUDENT NUMBER _____

SCHOOL NAME _____

STUDENT NAME _____

SUBJECT   VCE General Mathematics
(Standard) Unit 2

YEAR/LEVEL   11   **WEEK**   4

TEACHER   _____

PLEASE ATTACH WORK TO BE SENT.

NOTE: Please write your number on each page of your work which is attached to this page.

SEND   Please check that you have attached:

☐ Two tasks from Tasks 1-3

Have you left out any of the above items? Please let us know the reason for this so we can help you.

_____

_____

_____

_____

Use the space on the back of this sheet if you have any questions you would like to ask, or problems with your work that you would like to share with your teacher.

YOUR QUESTIONS AND COMMENTS PLEASE

	Score

You be the judge:
Give a grade from 1 to 9 on how well you feel you understand to following.
(9 = I fully understood and can apply the ideas, 1 = Help, I haven't a clue.)
 	
Do you feel confident that you understand:
 	
      How to use the formula to get the depreciation rate
 	
      Comparing the total cost of various financial products
 	
      Comparing the advantages and disadvantages of financial products.	

Were the instructions clear? _____

Roughly how long did you spend on this week? _____

Questions/Comments/or thoughts I have about this week:
(Why? What? When? Who? How?)

TEACHER'S FEEDBACK

Great things about your work:

Please consider doing the following:

DISTANCE EDUCATION CENTRE TEACHER

SEND…

This week there are **three** tasks listed. You should __complete 2 of them__, using the techniques you have learned so far. Please complete all sections of the tasks and forward all workings with your coversheet.

Task 1: Spinning down and out?

When you buy a car, whether it is brand new or 'pre-loved', it's value starts to drop as soon as you drive it out of the showroom or car-yard. In this task you will look at the depreciation of a 'Mad-Mobile', and then investigate the depreciation of two real car models.

The 'Mad-Mobile' costs $23 550, including registration and all on-road costs.

1. The manufacturer is confident that the 'Mad-Mobile' will have a reducing balance depreciation of 8% each year over its "life". Copy and complete the following table showing the expected values of the 'Mad-Mobile' for the first five years (round your answers to the nearest whole dollar):

Value after	0 years	1 year	2 years	3 years	4 years	5 years
	$23 550					

2. We know that in reality the depreciation rate is unlikely to be a steady 8%. In fact, the 'Mad-Mobile' depreciates at a changing rate, by 15% in the first year, 10% in the second year, and only 5% each year after that. Using these figures for the changing depreciation rate, calculate the value of the 'Mad-Mobile' at the end of each of the first five years.

Value after	0 years	1 year	2 years	3 years	4 years	5 years
	$23 550					
Rate		15%	10%	5%	5%	5%

3. Use the figures obtained in the first two questions to draw a graph showing both methods of depreciation on the same set of axes. Clearly label each of the two methods drawn.

4.   At some stage the value of the 'Mad-Mobile' is likely to be the same for both methods of depreciation. Using your graph from question 3, determine when this will happen.

5.   Some car models (like the Falcon or Corolla) have been made for many years. Over the years the amount you would have paid for a new car has changed. One model gave the following prices.

Year	2002	2003	2004	2005	2006
Advertised price	$16,990	$21,450	$25,000	$28,550	$34,990

Calculate the percentage change in price for each year.

6.   The value of my Trindus Typhoon has fluctuated over the years:

Year	2002	2003	2004	2005	2006
Advertised Price	$23 450	$20 497	$19 990	$13 990	$12 990

(a) Calculate the percentage depreciation for each of the years shown.

(b) There could be many reasons why the price drops and why depreciation varies. Suggest a few possibilities.

Task 2:   What's a dog worth, anyway?

Deborah loves dogs and she is very keen to have one as a pet. Her father is skeptical about the costs involved, and asks her to do a little research before the family commits itself to one.

Deborah goes to a local pet shop and finds that she can purchase a wormed and vaccinated puppy for $150. Her dad says that there are other costs to consider, and he made a list of them:

Bedding $40   This will be replaced every 2 years
Registration $50 per year or $10 if animal is de-sexed
De-sexing $100 (Only happens once and when a pup)
Food $8 per week

1.   If the dog lives for 15 years, what will be the total costs incurred by Deborah? (Include the purchase price and assume that costs are not affected by inflation over the 15 year period.). Complete this table to find the total cost for each year, each type of cost and the "grand total".

Year	Purchase	Desexing	Bedding	Registration	Food	Total
1				$50		
2				$10		
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
Total						

2.   What was the average cost per year over those 15 years?

3.   What is the purchase price as a percentage of the overall cost?

4.   Deborah's dad considers borrowing $1000 for 15 years, paying interest at 7% pa, compounded monthly. Calculate how much he would pay back (assuming he didn't make any repayments until the end of the 15 years). (Hint: You might like to refer to Week 3 if you need some guidance with compound interest.)

Task 3:   If I were a rich man,…..

You've task will involve contacting a bank or credit union, identifying appropriate "financial instruments" and using them on some situations.

You will need to contact at least **one** financial institution. This may be done in person or through their web-sites. Some are listed below:

http://www.adelaidebank.com.au	http://www.macquarie.com.au
http://www.anz.com.au	http://www.national.com.au/
http://www.bendigobank.com.au	http://www.stgeorge.com.au
http://www.commbank.com.au	http://www.westpac.com.au/

Find out information about their deposit and investment accounts, including the rates of interest and various fees. For each of the following, identify the best account (or combination of accounts.). Explain why you made your choice, including such factors such as interest rate and fees.

1. Byron is a 15 year old student with $800 saved up. Apart from some pocket money which he immediately spends, Byron works a few hours a fortnight in a shop. They pay $50 a fortnight directly into his bank account. He is saving for a motorbike, so he doesn't make any withdrawals from that account.

2. Nina is saving for a big holiday and hoping one day to buy a home. She currently has $52,000, which she doesn't plan to use for at least 2 years. She does want to keep $10,000 in cash. Her pay is deposited directly into her bank account, and half her withdrawals are done on the Internet and half through the automatic teller machines.

3. Bill is a door-to-door salesman. He has $4,000 set aside for the secondary schooling of his 5 year old child. He also has $22,000 in cash. He uses this to buy supplies so he can't lock it away. Most of his income comes in cash and cheques, which he deposits over the counter or at the automatic teller machines. He makes withdrawals by cheque or ATM.

4. Work it out for your own situation (but don't send that to the DECV.)