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Name:

Unit Test – Personal Finance, Savings & Vehicles

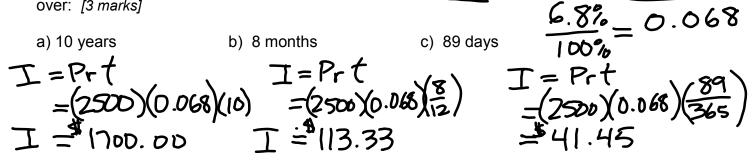
Formulas:

Simple Interest:	Compound Interest:	Present Value:
Simple Interest: I = Prt in years A = P + I	$A = P(1+i)^n$ I = A - P	$PV = A(1+i)^{-n}$

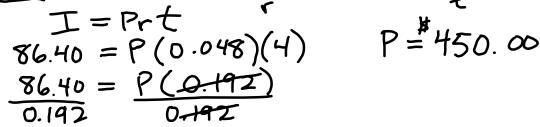
Time Period	# of compounds/year
Annual	1
Semi-annual	2
Quarterly	4
Monthly	12
Bi-weekly	26
Weekly	52
Daily	365

Round all money answers to two decimal places.

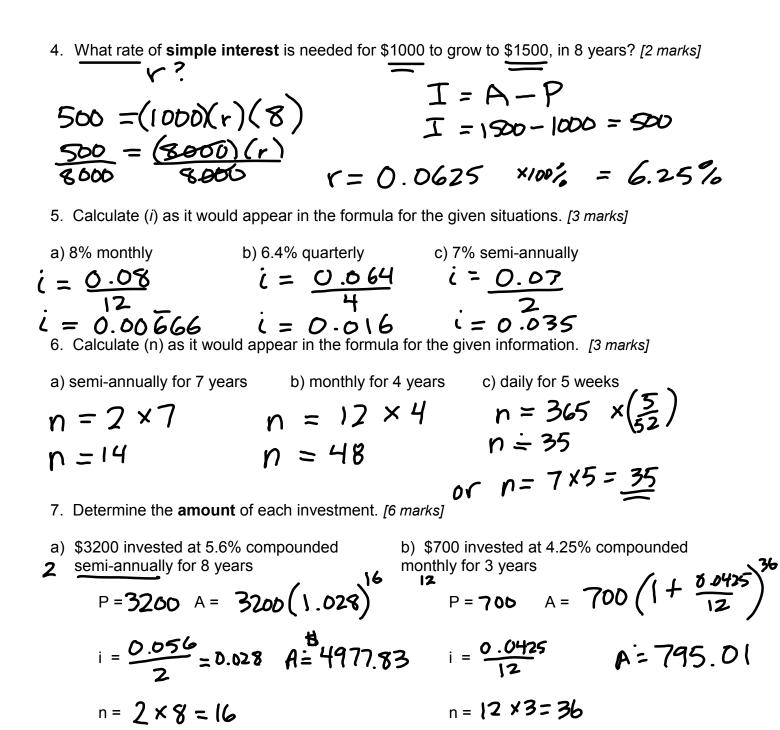
1. Calculate the amount of **simple interest** earned from \$2500 at an interest rate of 6.8% over: [3 marks]



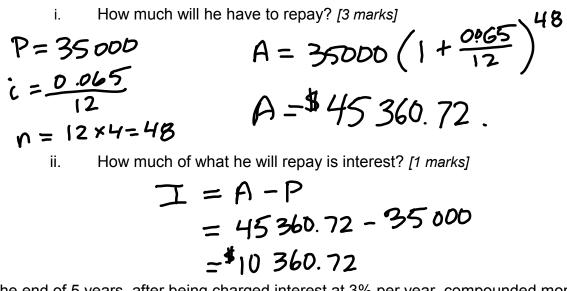
2. Kate invested in a GIC that paid <u>4.8%</u> **simple interest**. In 4 years, she earned \$86.40 in interest. How much did she invest <u>originally</u>? [2 marks]



-3. Jack's investment matured making \$350 in **simple interest** It was invested at a simple interest rate of 5.5%. How long was it invested for (in years)? [3 marks]



8. Sawyer borrowed \$35 000 for a new sports car, at 6.5%, <u>compounded monthly</u>, for 4 years.



9. At the end of 5 years, after being charged interest at 3% per year, compounded <u>monthly</u>, Hurley had to pay \$10 135.11. How much did Hurley <u>originally</u> borrow? [3 marks]

$$PV = 10135.11 \left(1 + \frac{0.03}{12}\right)^{60}$$
$$= \$8725.00$$

10. Charlie is purchasing a used vehicle from a car dealer. The dealer offers ber two payment options.

Plan A: pay \$3750 now Plan B: pay a \$1500 down payment now and \$2450 in one year.

If current interest rate is 4% per year, compounded semi-annually, which plan is the better deal? Explain and show your calculations. [4 marks] ²

$$\frac{P|an A}{\$ 3750} = \frac{9|an B}{\$ (500 no interest} A = 2450 \left(1 + \frac{0.04}{2}\right)^{2} A = \frac{\$2548.98}{Total} = 2548.98 + 1500 = \frac{\$4048.98}{100}$$

11. If you were to use the **TVM Solver** on the graphing calculators, state the values that should be entered for each of the variables in the TVM solver. <u>Put the word "answer" in where your answer should be calculated.</u> [6 marks]

Question A: What amount needs to be invested at 2.8% interest compounded weekly if you have \$650 after 3 years?

Question B: If \$3000 is invested in a term deposit that pays 6.6% per year, compounded semi-annually. How long will it take for his investment to triple in value?

N =	N =
l%=	I%=
PV =	PV =
PMT = 0	PMT = 0
FV =	FV =
P/Y = 1	P/Y = 1
C/Y =	C/Y =

12. Locke's January credit card statement shows a balance of \$1586. Payment is due on January 12. The minimum payment is the greater of \$25 or 3.5% of the balance. Locke made the minimum payment on January 15. He did not make any purchases in January or February and paid the balance in full on February 4 (the date of his February statement). The annual interest rate is 18.6%.

a) What was the amount of the minimum payment Locke made on January 15?

0.035 × \$1586	Lock must make a
=\$55.51 <- this is more	minimum payment of \$55.51.
= 55.51 than \$25	\$55.51.
b) How much interest was he charged up to January 15	
P = 1586 $A = 1586$ ($(+\frac{0.186}{365})^{-1}$
$i = \frac{0.186}{365}$ A = 1588.	43
n=3 I=A-	P = #2.43
c) What amount did Locke pay in February to pay off th	e balance? [2 marks]
1588.43 A=1532	$.92\left(1+\frac{0.186}{365}\right)^{20}$
-55.51 A = 1548	.62
1532.92	