COMPOUND INTEREST PRACTICE

1) Evaluate. Round answers to 2 decimal places.

a) $1000(1.0097)^{12}$ **b)** $575(1+0.0234)^{26}$ **c)** $900(1+\frac{0.3}{12})^{24}$

2) Calculate the interest rate (i) as it would appear in the compound interest formula.
(Hint: Convert to decimal and divide by the number of compounding periods)

a) 5% quarterly   **b)** 0.3% semi-annually   **c)** 1.25% monthly

d) 4.2% bi-weekly   **e)** 0.05% daily   **f)** 12% annually

3) Calculate the number of compounding periods (n) as it would appear in the compound interest formula. *(Hint: multiply the length of time (in years) by the # of compounding periods in the compounding frequency)*

a) Monthly for 2 years   **b)** Weekly for 3 years   **c)** Annually for 36 months

d) Semi-annually for 30 months   **e)** Bi-weekly for 6 months   **f)** Daily for 3 weeks

4) Jared needs to borrow $3 000. Which loan should he take? Explain.
   a) $3 000 for five years at 9% per year, compounded semi-annually
   b) $3 000 for five years at 8.5% per year, compounded quarterly

9% loan	**8.5% loan**
$A=$	$A=$
$P=$	$P=$
$i=$	$i=$
$N=$	$N=$

Therefore...

5) The city of Melville has a population of 102 000 and a projected growth rate of 2.3% per year, for the next 10 years. The city of Markton has a population of 97 000 and a projected growth rate of 3.7% per year for the next 10 years. Which city is expected to have the greater population in 10 years?

<u>**Melville**</u>	<u>**Markton**</u>
$A=$	$A=$
$P=$	$P=$
$i=$	$i=$
$N=$	$N=$

Therefore…

6) The Stereo Warehouse is advertising "No money down and pay no interest for one year!" Peter read the fine print and discovered that, although you pay no interest for one year, interest is calculated at 12% per year, compounded monthly, on the price of the merchandise. What would Peter have to pay for an $1150 LCD TV after the one-year interest free period is over?

7) Mohammed spent $800 on his credit card. His credit card company charged 18% compounded monthly. He forgot to pay it for 3 months. How much does he owe now? How much of that is interest?

8) Congratulations, you just won $500 000 in the lottery. After buying a car, donating to your favourite charity and sharing some of your wealth with family and friends you decide to invest $200 000 for retirement. You put your money into a mutual fund which on average earns 6.5% per year, compounded annually. How much money will you have in 30 years?