FINANCIAL

Level 2

Please revise Level 1

Simple Interest	and	**Compound Interest**
$A_t = A_0(1 + rt)$ or $I = Prt$		$A_t = A_0(1+r)^t$ $\qquad$ $A_t = A_0(1 + \frac{r}{n})^{nt}$

Check that you know what all these formulae mean.

Examples

Find the amount in the bank if $500 is invested @ 7% for 5 years flat rate.

$A_t = 500(1 + 0.07 \times 5) = \$675$ $\qquad$ i.e. $175 interest

Find the amount in the bank if $500 is invested for 5 years at 6% compounded monthly.

$A_t = 500(1 + \frac{0.06}{12})^{12 \times 5} = \$674.43$ $\qquad$ i.e. $174.43

Practise

1

a) Increase $550 by 10½% $\qquad$ b) Decrease $345 by 10¼% $\quad$ c) Increase $50 by 0.5%

2

a) Find the total in the bank if $800 is invested for 5 years @ 4.25% p.a. flat rate.

b) The sum of $1500 is invested @ 5% p.a. simple interest and earns $562.50. For how many years is the money invested?

c) Given the rate of interest as 5.06% p.a. and the fact that $333.96 was earned in 3 years, calculate the principal invested.

d) Find the amount accumulated after 3 years if $2000 are invested at 6.25% p.a. with interest compounding each 6 months.

e) Determine the interest paid on $6000 invested at 12% p.a. compound interest for 5 years with the interest compounded a) annually $\qquad$ b) every six months $\qquad$ c) monthly

3   Determine the value of an investment of $4000 after 3 years if the interest rate is 12% per year calculated

a) as simple interest   b) compounded annually c) compounded monthly d) compounded daily

4   Zac received $250 for his 5th birthday and his mother invested this in a bank which offered an interest rate of 6.15% compounded daily. How much was he able to draw from the bank on his 21st birthday?

5   Georgia invests $2000 at 8%p.a.for 3 years with interest compounded monthly. Emma invests $2000 in an account which pays Simple Interest.

   a)   What flat rate is required so that the value of each investment is the same at the end of the three years?

   b)   What is the value of the investment at this time?

6   Miguel invest $500 in a savings account which offers a rate of 6% compounded monthly.   Miguel would like to know how much interest he obtain EACH MONTH.

Write a recursive formula to help solve his problem and use it with your casio classpad to find this over the first two years (24 months)