Name: _____ Date: _____ IB Math A&A SL

Lesson 3.2 - Simple & Compound Interest, Appreciation & Depreciation

I. Comparing Simple & Compound Interest

Interest that is calculated only on the principal amount is called _____.

Interest that is calculated on the principal amount *and previous earned interest* is called _____.

1. Fill in the following chart. Compare which type of interest would give the greater balance.

Simple Interest of 6%					**Compound Interest of 6%**			
t	Principal	Annual Interest	Year-End Balance		t	Principal + Prior Interest	Annual Interest	Year-End Balance
1	$1000.00	$60.00	$1060.00		1	$1000.00	$60.00	$60.00
2	$1000.00	$60.00	$1120.00		2	$1060.00	$63.60	$1123.60
3					3			
4					4			
5					5			
6					6			

Graph the year-end balances for each type of interest and state the mathematical relationship represented.

II. A General Formula for Periodic Compound Interest

2. Suppose $10,000 is placed into an account that pays interest at a rate of 5%. How much will be earned in the account in the first year if the interest is compounded (a) annually? (b) semi-annually? (c) quarterly?

(a) annually

(b) semi-annually

(c) quarterly

3. Find the accumulated value of a $5000 investment which is invested for 8 years at an interest rate of 12% compounded :

(a) annually

(b) semi-annually

(c) quarterly

(d) monthly

4. Mr. Braza won $150,000 in the lottery and decided to invest the money for retirement in 20 years. Find the accumulated value for Mr. Braza's retirement for each of his options:

(a) a certificate of deposit paying 5.4% compounded yearly

(b) a money market certificate paying 5.35% compounded semiannually

(c) a bank account paying 5.25% compounded quarterly

(d) a bond issue paying 5.2% compounded daily.