ASSIGNMENT # 6
MATH Models I - FALL 08

① Fill in the empty slots & sketch the graphs

(A)

x	$y = 3^x$
	9
0	
	1/9
1	

(B)

x	$y = (\frac{1}{2})^x$
	2
2	
	1/2
0	
	4

(C)

x	$y = 4^{-x}$
2	
	0.5
-0.5	
	4

(D)

x	$y = -5^x$
0	
1	
-1	
	-0.04

(E)

x	$y = 2(3^{-x})$
-1	
	2
	2/9
	54

(F)

x	$y = 1 + 2^x$
-2	
-1	
	2
	5

② A 500$ sum is invested at 6% interest compounded Annually.

(a) Express the total value of the investment (T) after (t) years.

(b) Would it be wiser to invest the 500$ at 0.2% compounded monthly if you are to invest for 1 year? What about 10 years? Explain your answer.

③ The half-life of ^{252}Es (An isotope of Einsteinium) is 471.7 days.

If you start with 756 grams of it, how much will remain after 25 days? 100 days? 1 year?

④ Sketch the graphs of the following parabolas

Ⓐ $-2x^2 - 5x + 3 = y$
Ⓑ $x^2 + x + 1 = y$