**Notes: Lesson 1.3.2 🡪 Creating and Graphing Exponential Equations**

Reviewing exponential equations:





**Compound Interest Formula:**

* The general form of the compound interest formula is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

where **A** is the \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_, where **r** is the \_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_, **n** is the number of \_\_\_\_\_\_\_\_the investment is compounded in a

year, **t** is the number of \_\_\_\_\_\_\_\_\_\_ the investment is left in the account to

grow.

* **Use this chart to reference:**

|  |  |
| --- | --- |
| **Compounded…** | **n (number times per year)** |
| Yearly/annually |  |
| Semi-annually |  |
| Quarterly |  |
| Monthly |  |
| Weekly |  |
| Daily |  |

* When graphing exponential equations, you have to use a table of values.



 Initial height = \_\_\_\_\_\_\_ a = \_\_\_\_\_\_ 

 Decay rate = \_\_\_\_\_\_\_ b = \_\_\_\_\_\_

|  |  |
| --- | --- |
| x | y |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

 



 Initial bacteria count =\_\_\_\_\_\_ a = \_\_\_\_\_ 

 Base = \_\_\_\_\_ b = \_\_\_\_\_

 Time period = \_\_\_\_\_\_ x = \_\_\_\_\_

|  |  |
| --- | --- |
| x | y |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |





 Initial investment = \_\_\_\_\_\_ P = \_\_\_\_\_\_\_ 

 r = \_\_\_\_\_ r = \_\_\_\_\_\_\_

 Compounded monthly = \_\_\_\_\_\_\_ n = \_\_\_\_\_\_\_



**Example 4**



a) What is the equation for the investment at the first bank?

b) What is the equation for the investment at the second bank? Keep in mind that you

 spent $100 of the money you initially planned to invest.

c) Using the graphing calculator, graph the equations on the same coordinate plane.

 To do this, first rewrite each equation in the form of y = abᵡ.

 A = 2000(1.03)ᵗ becomes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 A = 1900(1.00267)¹²ᵗ becomes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



d) Looking at the graph of the investment you actually made, how many years does it take

 to earn back the $100 you spent?

e) How many years does it take before the investment will be equal to the investment you

 almost made?