GSE Algebra 1 **HW #7.8** Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1) $15,000 is deposited in an account that pays 3.5 % annual interest. Compare the amount in the account between a simple interest account and one that compounds with the specific number.

**Simple Compound**

t = 5 t = 5 compounded semi-annually

t = 10 t = 10 compounded quarterly

t = 15 t = 15 compounded monthly

2) You borrowed $59,000 for 6 years at 11% which was compounded semi-annually. What total will you pay back?

3) You have inherited land that was purchased for $30,000 in 1960. The value of the land **increased** by approximately **5**% per year. What is the approximate value of the land in the year 2011?

4)  Given: $A=900(1.53)^{t}$5) Given: $A=14(0.75)^{t}$

|  |  |  |
| --- | --- | --- |
| initial amount | Ratio | rate |
|  |  |  |

|  |  |  |
| --- | --- | --- |
| initial amount | Ratio | rate |
|  |  |  |

6) A new LED TV, purchases for $2500, loses 40% of its value a year. Develop a model to analyze the value of the TV over the course of 5 year and find the amount it is worth at year 5.

For the following, create the equations.

7) A linear graph that has vertically stretched by a factor of 5 and moved down 3 units.

8) A quadratic that has been reflected across the x-axis, vertically shrunk by a factor of ¼ and moved right 5 units.

9) An exponential decay that has an asymptote of -5 and moved left 7 units.

Graph the following equations. List out the transformations and the information needed to help you. (make tables if needed)

10) $y=\frac{1}{2}x+2$ 11) $y=-(x+3)^{2}-4$ 12) $y=2(\frac{1}{2})^{x}-2$



Moved? Moved? Moved?

y-int: Vertex: y-int:

x-int: Direction: Growth or decay?

 Asymptote:

Evaluate.

13) $f\left(x\right)=3(3)^{x-3}+1 when x=3$ 14) $y=-4x^{2}-5x+3 when x= -1$

15) Given the following equation, tell what form it is in. Then follow the directions for each part.

$$y=(x-3)(x+3)$$

Form: x-ints: y-int: Direction:

Vertex:

* Add the two x-intercepts then divide by 2. Plug that number back in to get your k/y.



$$y=(x-3)(x+3)$$

 Convert into standard form.

 Convert into vertex form $x=-\frac{b}{2a}$ or use the vertex from

 above and make the equation.