Algebra 1 **Name _____**
Section 6.4 Worksheet #2

State whether the exponential function represents growth or decay. Identify the initial amount, *a*, and the rate of growth, *r*, (as a percent).

1. $y = 3500(1.02)^t$	2. $y = 150(0.97)^t$
3. $y = 2000(0.7)^t$	4. $y = 6(1.3)^t$

Write a function that represents the situation.

5. Profits of $100,000 increase by 15% each year.
6. A school population of 1200 decreases by 6% each year.
7. College enrollment of 41,000 increases by 5.5% every year.
8. A stock valued at $24.75 decreases in value by 2.5% each year.

Determine whether the table represents an exponential growth function, an exponential decay function, or neither. Explain.

9.

x	0	1	2	3
y	4	12	36	108

10.

x	0	1	2	3
y	200	100	50	25

11. The number of garbage trucks in a city has been increasing by 25% annually. There were 40 garbage trucks in the year 2010.
a. Write an exponential growth function that represents the number of garbage trucks *t* years after 2010.

b. How many garbage trucks will there by in the years 2030? Does this sound reasonable? Explain.

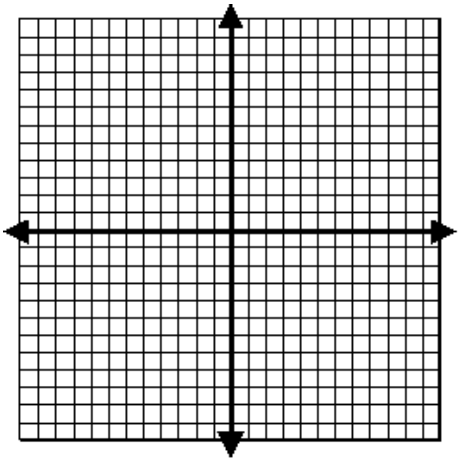
Use the compound interest formula to answer the following.

$$A = P\left(1 + \frac{r}{n}\right)^{nt}$$

12. How much money will you have after 2 years if you deposit $800 into an account that earns 5% annual interest compounded quarterly.
13. How much money will you have after 6 years if you deposit $5000 into an account that earns 5% annual interest compounded monthly.
14. How much money will you have after 10 years if you deposit $1500 into an account that earns 5% annual interest compounded annually.

6.3 Review

15. Graph the function by creating a table of values.: $f(x) = 2^x + 3$



Set Notation	**Interval Notation**	
Domain:	Domain:	**Asymptote:**
Range:	Range:	**Parent Function:**
		Translation from parent:

Evaluate each expression.

16. $f(x) = 0.5(2)^x$ if x = -3	17. $f(x) = -3(5)^x$ if x = 2	18. $f(x) = 50(0.5)^x$ if x = 10