

Algebra 1
6.4 Worksheet #2

Name _____

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. <table border="1"><tr><td>x</td><td>0</td><td>1</td><td>2</td><td>3</td></tr><tr><td>y</td><td>4</td><td>12</td><td>36</td><td>108</td></tr></table>	x	0	1	2	3	y	4	12	36	108	10. <table border="1"><tr><td>x</td><td>0</td><td>1</td><td>2</td><td>3</td></tr><tr><td>y</td><td>200</td><td>100</td><td>50</td><td>25</td></tr></table>	x	0	1	2	3	y	200	100	50	25
x	0	1	2	3																	
y	4	12	36	108																	
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 be in the years 2030? Does this sound reasonable? Explain.
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Use the compound interest formula to answer the following.

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

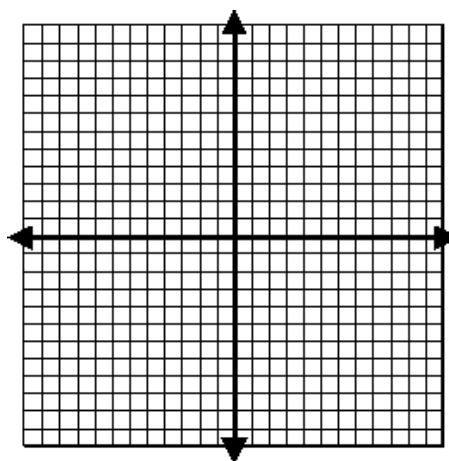
12. How much money will you have after 2 years if you deposit \$800 into an account that earns 5% annual interest compounded quarterly.

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	Asymptote:
Domain:	Domain:	Parent Function:
Range:	Range:	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 $x = 10$
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