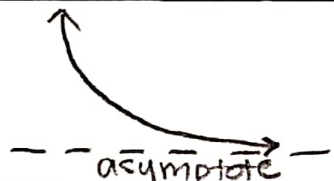


UNIT 5 EXPONENTIAL & LOGARITHMIC FUNCTIONS

5.0 Notes Vocabulary Terms (16 points)

Instructions: Define the following terms in your own words, ensuring that you include an example for each in the table. This assignment is due by the end of your class block—NO EXCEPTIONS. If it is not received at the end of this class block, you will receive a zero for your grade.

Term	Definition	Picture/Example
1. Asymptote	A (boundary) line that a curve approaches or hugs	
2. Base	the big # of a power ↑ (repeated multiplication)	2^5 base
3. Change of Base Formula	allows you to rewrite logarithms with another base of choice	$\log_b a = \frac{\log_c a}{\log_c b}$
4. Common Logarithm	a logarithm with base 10 (on the calculator)	$\log_{10} a$ or $\log a$
5. Compound Interest Formula	calculates interest made on an amount broken down more frequently than every year.	$y = P \left(1 + \frac{r}{n} \right)^{nt}$
6. Decay Factor	a number between 0 & 1 that calculates the decrease/decay	$y = P \underbrace{(1 - r)}_{\text{decay factor}}^t$
7. Exponent	the # that you how many times to multiply another # to itself	2^5 exponent

8. Exponential Function	a function where the variable is in the exponent	$f(x) = b^x$
9. Growth Factor	a number greater than 1 that calculates the increase/growth.	$y = P(1+r)^t$ growth factor
10. Laws of Exponents (Power Rules)	If you multiply powers with the same base, <u>add</u> the exponents. divide powers \Rightarrow <u>subtract</u> the exponents	$a^m a^n = a^{m+n}$ $\frac{a^m}{a^n} = a^{m-n}$
11. Logarithm	tells you the exponent for the base that will give another #.	$\log_3 9 = 2$
12. Logarithmic Function	a function in the form $y = \log_b x$	$f(x) = \log_b x$
13. Nth Root	the # that multiplies n times to give the radicand.	$\sqrt{9} = 3$ $\sqrt[3]{64} = 4$
14. Power Property of Logs		
15. Product Property of Logs		
16. Quotient Property of Logs		