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# Grade 10-Lesson 20-Logarithm II

#### Since logarithms table prepared in base 10, it is expressed as follows

 $Log_{10}N = lgN$ 

### **\*** Finding the logarithm of numbers between 1 to 10

	0	1	2	3	-4	5	6	7	8	9	() monormality and the second
1.0	.0000	.0043	.0086	.0128	.0170	.0212	.0253	.0294	.0334	0374	C Reversionality
1.1	.0414	0453	,0492	.0531	0569	.0607	.0645	0682	.0719	.0755	
1.2	41702	0828	0864	.0899	.0934	.0969	.1004	1038	.1072	1106	-
1.3	1130	1173	1206	.1239	1271	.1303	1335	1367	1300	.1430	0
1.4	.1461	.1492	1523	1553	.1584	.1614	1044	1673	1703	1732	1.1
1.5	-1761	1790	1818	1847	1875	11903	.1931	1959	1987	2014	
1.6	.2041	,2068	2095	.2122	.2148	.2175	2201	.2227	2233	2270	
1.7	.2304	2330	2355	.2380	.2405	.2430	2455	2480	2504	2520	
1.8	.2553	-2577	2601	2625	2648	.2672	.2695	.2718	.27.42	.2765	
1.9	.2788	.2810	.2833	2850	.2878	.2900	.2923	2945	2967	2989	
2.0	3010	3032	3054	.3075	.3096	3118	3130	3160	3181	3201	

Initial two digits of the number which should find the logarithm.

Logarithm of the number with three digits

Examples

1. lg1.2 = 0.0792

II. lg1.57 = 0.1959

• Do the exercise 20.1 in the text book

#### Logarithm of number with 4 digits

											මධ්ය අන්තර තීරුව								_
	0	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
18	2553	2577	2601	2625	2648	2672	2695	2718	2742	2765	2	5	7	9	12	14*	16	39	21
19	2788	2810	2833	2856	2878	2900	2923	2945	2967	2989	2	4	7	9	ü	13	16	18	20
20	3010	3032	3054	3075	3096	3118	31.39	3160	3181	3201	2	4	6	8	n	13	15	17	19
23	3222	3243	3263	3384	3304	3324	3345	3365	3385	3404	2	4	6	8	10	12	14	16	18

#### Example

 $lg 1.932 = 0.2860 \rightarrow (2856 + 4 = 2860)$ 

- ▶ Here, seeing the value of 19<sup>th</sup> raw of 3<sup>rd</sup> column, the answer will be taken by adding the mean difference of second column
- When finding the logarithm of any number greater than 10, It should first be written as product of a number between 1 and 10 and a power of 10. Then, this power of ten is the characteristic of the logarithm of the number.

1. lg21.12 = 1.3247 II. lg1854 = 3.2681

• Do the exercises 20.2 and 20.3 in the text book.

## ✤ Antilogarithm

Example-1

 $\lg 1.39 = 0.1430$ 

Antilog 0.1430 = 1.39

- Do the exercise 20.4 in the text book.
- **\*** Simplification using logarithmic table

Example  
Find the value of 
$$\frac{29.3 \times 6.285}{12.34}$$
  
 $lg\left(\frac{29.3 \times 6.285}{12.34}\right) = lg(29.3 \times 6.825) - lg12.34$   
 $= lg29.3 + lg6.285 - lg1234$   
 $= 1.4669 + 0.7983 + 1.0913$   
 $= 1.1739$ 

 $\frac{29.3 \times 6.285}{12.34} = \operatorname{antilog}(1.1739) = 14.92$ 

• Do the exercises 20.5, 20.6 and miscellaneous exercise in the text book.