How to use logarithm and antilogarithm table pdf

How to use log antilog table.

Before the electronic computers were widely available, the calculation of decimal numbers was with slide rules, mechanical calculators and tables books. The tables of the tables were probably the most common because they were taught in the math classes in schools and were essential for the known mathematics exam as "ordinary level" or only "or level *". Moreover, since they were quite thin brochures, they were relatively cheap and easy to carry around. Cover of godfrey and siddons four tables figures I started using these tables in the 1950s in my grammar school. The tables that my school provided at that time were from Godfrey and Siddons, and published by Cambridge University Press. If you are old enough, you will recognize the photo of the front cover. Four figures tables, five tables figures or simply "log"? The books of Godfrey and Siddons of the tables provided are equipped with accurate answers to four figures and consequently they had the title of four figures tables. However, similar tables exist to more than four figures even if I had never seen any of them at that time. Furthermore there were other authors and publishers. Since our main use of these tables has been to search for Logarithms ** as a means of multiplying and dividing - see below - they acquired the name of the register tables or record bathrooms, even if they contained other types of mathematical table. Everything matters to understand which life was like for the children of the ordinary school at half of the 20th century it is that two or more numbers can be multiplied together by adding their trunks and decodes the result. In the same way a number can be divided for a second number by subtracting the register of the second number from the register of the first number and decodes the result. Decoding you get looking at what is known as Antilogarism or Antilog from another page in the book of tables. The process can be understood visually seeing how a slide rule works and you may want to refer to the page of the slide rule before reading. The slide rules have a log stairs printed on them. How to use the registry tables and Antilog The image shows the line structure and column of a typical page of the registry tables. The image is intentionally too small for individual numbers to be readable, because the purpose is just to show the "shape" or structure of a page. This is important to understand how a table has been used. Riga structure and column of a logarithm page in a book of four figures tables. In the left column there are numbers from 1.0, up to 1.1, 1.2, etc. At 9.9. The registers of these numbers are in the adjacent column that has the heading 0. To multiply together two or more numbers with only two significant figures, ignore any decimal point and simply uses the first two columns to look for their trunks. Then add the records together and decode the first two significant figures from Antilog tables. If the numbers to be multiplied have three significant figures, find the row corresponding to the first two significant figures and look along its row. If, for example, the third significant figure is 6, then the register is in the headed column 6 in that row. If the numbers to be multiply have four significant figures, the large columns to the extreme right come into play. Keeping the same row, these give the number that must be added to the three-figure register. A ruler is essential to avoid wandering a row and another, but the layout makes this more manageable with a space between every third row. Decimal points and powers of ten as scroll rules as registers, the registers do not show where to place a decimal point in a response or if zeri are needed. For A approximate calculation is required as explained on the slide adjustment page. This use of the logarithms can seem longwinding from today's standards where electronic computers are so widely available, but it is necessary to realize that the additions and states involved were not particularly ardue for us. Because there were no electronic computers that most people became quite skilled in what was called called Arithmetic 'and was taught as a school matter for young children. My father, for example, who worked with figures throughout his life, was able to throw a look so quickly in a column of complex numbers, which seemed as if he were simply checking that they were legible. Then you could immediately announce what they added to. So for us, before most of us he knew nothing electronic computers, logarithms were all the advantages without the disadvantages. There was nothing we knew what could make the multiplication and division of large numbers easier. We were obviously taught to multiply and divide large numbers using only paper and pen and what they were known as' long multiplication 'is the long division', but these methods were bulky and open to many mistakes than to look at the numbers in the tables and simply Adding, subtracting and decoding. ___ * The General Certificate of Education Ordinary Level Exam (also known as O Level GCE) was the precursor of GCSE and introduced in Great Britain in 1950. ** Each issue has what is known as a logarithm or register a A particular base (normally taken as 10) which is unique for that number. As a logarithm is calculated it is not something that anyone without a specialist interest could be expected to understand. We are looking for the general approach for the first time for the use of registers in the calculation. Suppose you have to evaluate the value of n in [n = frac {{a times b times {c ^ {{e_1}}}}} {{x {x {{{e_2}}} } One way is to use computers! But youÃ ¢ just your paper and pen and what is called Log-tables (WEA LL will soon discuss these) with you. Taking the registry of both parts of a certain base B, we have [begin {align} and {log _b} n / = {log _b} left ({frac {{at times b Times {c ^ {{e_1}}}}} {{x times {y ^ {{e_2}}}}}}} & = {log _b} left ({a times b Times {C ^ {{E_1}}}} Right) - {log _B} Left ({x Times {Y ^ {{e_2}}}} right) & = left {{{{ {log} _b} a + {{log} _b} b + {{log} _b} {c ^ {{e_1}}}}}} -} {{{log} _B } x + {{log} _b} {y ^ {{e_2}}}} right} {{log _b} a + {log _b} b + {e_1} {log _b} C - {log _b} x - {e_2} {log _b} y end {align} It turns out to be Z. Then we have: [{log _b} n = z now we simply need to take the antilog of both parties, which is nothing but raise both parties to power b, so as to have [N = {b ^ z} so, we will succeed in the n uti evaluation Rising only the operations of additters and subtraction and multiplication (simple). WEA Five logs also adopted and Antilog in a process but for that WEA five register tables with us. First actually doing some calculations, we try to understand how to use the registry tables. The first point is to be noted is that our default base we use in 10, namely, b = 10, in a way you ¢ ll find general register tables in base 10. This is because 10 is a base Very easy for our mind to grasp, and calculations based on 10 are the easiest WEA VE used 10 since we learned to count). Suppose you have to evaluate the 347 registry based on 10. From now on, this will be written simply as a log 347, where the base should be understood as 10. Note that we can write as 347 [347; = 3.47; times 10 ^ 2] By taking the register of both parties, we have [begin {align} and log, 347 quad = Left ({3.47} on the right) + Left ({{{10} ^ 2}} Right) & QQuad QQuad; = 2 + Left Left ({3.47} Right) END {ALIGN}] Thus, the registry assessment 347 is equivalent to evaluating register Ã ¢ The difference is simply 2. Consider another example: [Begin {align} & 6.478,25 = 6.47,825 thousand times10 ^ {3;} & RightRrew Left (6,478 , 25 right) = 3 + Left (6.47.825 thousand RIGHT) END {ALIGN} in this way, taking the register of any number can be reduced to finding the logarithm of a corresponding number between 1 and 10. Like another example, [Begin {align} and 0.000,134 thousand {rm {}} = {rm {}} 1.34 {rm {}} times {rm {}} {{10 ^ - 4}} & RightArrow, Left LEFT ({} 0.000,134 thousand RIGHT) =, - - 4 + LEFT ({1.34} ({1.34} The integral part of each log is called characteristic, while the non-full part is the money. Note that Mantissa will always be between 0 and 1. Why? Because the Mantissa is the log of a number x between 1 and 10, and if (1 x