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## The General Theory of Magnitudes

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As a continuing of the previous Theory of Magnitudes, this a General Theory  
 The previous theory dealt only with the closest star in a ratio of its greatest inverse apparent magnitude. My new theory shows the distance between 2 stars anywhere on a photograph of the

night sky using centimeters. I am extending that beginning formula adding on a new equation with the integral calculus formula using the number value at that given to be raised to exponent 2 divided by 2 . All stars are using inverse Apparent Magnitudes like my first paper.

My new formulas as stated 1+ Inverse Apparent Magnitudes one = Q 1  
 1 + Inverse Apparent Magnitude two = Q2

$(Q1 + Q2) - (Q1 - Q2)$  times 2.5 divided by  $(Q1 + Q2) + (Q1 - Q2)$  times 8 pi take the square root of that by which was divided. take the natural logarithm of that and you get the value P

take P squared and then divide P by 2 . call all of this formula W

My second equation ; Euler's number raised to its exponent is such ; total addition of the inverse apparent magnitudes in a centimeter using times that in centimeter plus one times 8 pi . .

take natural logarithm of that total using square root of total of this divided by 3 pi

Take this second equation and square it the multiply this equation called Y by w then subtract

this total by w ;Then divide the previous equation by the Natural Logarithm in This set of the Inverse apparent magnitude of the reference star raised to the exponent of 10 } .

### Appendix

To simplify I will repeat: After Y is subtracted by w 2 new simple formulas for the basic understanding ; Divid that part of the answer

By the Natural Log of this { pi plus the inverse apparent magnitude raised to 10 exponent } ; this star ; other reference star also star is used in these formulas ;

Here in the appendix of this paper is a new way to look at the derivative ;an example given the function  $Af(x)$  raised to  $B$  : as an example ;  $A$  must be greater than or equal to  $B$  :  $B$  squared plus  $(A-B)B$  ;  $Nx^{n-1} = f(x) = B$  squared minus  $(B+A)f(x)^{n-1}$  or  $B$  squared plus  $(B-A)f(x)^{n-1}$  they are symmetric.

#### References

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- [2] Previous paper The Theory of Magnitudes Published paper in Technium Vol.4, No.pp. 11-14 (2022) ISSN: 2668-778X [www.techniumscience.com](http://www.techniumscience.com)