Air maths tuition

Interact, engage and perform

What is Logarithm?

$$\boxed{\log_a N = x \quad \text{since} \quad a^x = N}$$

$\log_3 9 = 2$ since $3^2 = 9$

$\log_2 32 = 5$ since $2^5 = 32$

$\log_5 20 = 1.861\ldots$ as $5^{1.9} \approx 20$

What does log mean?

Answer: log to base 10

So $\log 100 = 2$ since $10^2 = 100$

$\log 1000 = 3$ since $10^3 = 1000$

Short exercise

$\log_2 8 = 3$ as $2^3 = 8$

$\log_9 3 = \frac{1}{2}$ as $9^{\frac{1}{2}} = 3$

$\log_3 \frac{1}{9} = -2$ as $3^{-2} = \frac{1}{3^2} = \frac{1}{9}$

$\log 10 = 1$ as $10^1 = 10$

$\log_5 1 = 0$ as $5^0 = 1$

$\log_3 12 = 2.261\ldots$

$= 2.3$ (1dp) as $3^{2.3} \approx 12$

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