

Re: can you find the limit of this function?

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In article <baa549eb.0407152255.2b987562@posting.google.com>, max1974isome@hotmail.com (Max) wrote:

- > *Brute force calculating gives the limit of*
- >
- > h
- > $3 - 1$
- > -----
- > h
- >
- > *as approximately 1.09 when h approaches 0.*
- >
- > *How can I find that algebraically without*
- > *calculus?*
- >
- > *Using the squeezing theorem I was able to*
- > *confirm its range between 1 and 1.2817*
- > *(= $4 - e$). But that's as close as I can get.*
- >
- > *any ideas for an exact answer?*
- >
- > *thanks,*
- > *Max Schmeder*
- >
- > *(to reply by email, remove the year from my address)*

Since $3^0 = 1$, you have $(3^h - 3^0)/h$, whose limit will be the derivative of 3^x with respect to x , evaluated at $x = 0$, which is $\ln(3)$.