

Re: sin x / x tends to 1...

Source: <http://sci.tech-archive.net/Archive/sci.math/2005-09/msg01181.html>

- *From:* "N. Silver" <mathelp@xxxxxxxxxxxxxxxxxxxx>
 - *Date:* Tue, 06 Sep 2005 10:17:44 GMT
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Lee Rudolph wrote:

- > From this it follows that, *if you believe* that sin
- > has a (non-zero) derivative *at all*, at any point,
- > then its derivative is cos. Can that belief be
- > justified without assuming the limit under consideration?
- > I suspect it can, by further geometric argument using the
- > helix parametrized by $x \mapsto (\cos(x), \sin(x), x)$.

If you have such an argument, maybe we can go back to the definition of derivative and prove the limit is 1. Please give your geometric argument.

• *Follow-Ups:*

- ◆ [**Re: sin x / x tends to 1...**](#)
◇ *From:* Lee Rudolph
- ◆ [**Re: sin x / x tends to 1...**](#)
◇ *From:* N. Silver

• *References:*

- ◆ [**sin x / x tends to 1...**](#)
◇ *From:* Darren J Wilkinson
- ◆ [**Re: sin x / x tends to 1...**](#)
◇ *From:* massimo67
- ◆ [**Re: sin x / x tends to 1...**](#)
◇ *From:* N. Silver
- ◆ [**Re: sin x / x tends to 1...**](#)
◇ *From:* Lee Rudolph

- Prev by Date: [**Re: Questions about Cartesian product**](#)
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Re: $\sin x / x$ tends to 1...

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