Re: ArcTanh[x,y] & Wikipedia.

Source: http://sci.tech−archive.net/Archive/sci.math.symbolic/2005−10/msg00047.html

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- *Date*: Thu, 13 Oct 2005 07:40:11 −0400

Simo K Kivelä wrote:

> "Roger Beresford" <mail@xxxxxxxxxxxxxxxxxxxxxxxxxxxx> writes:
>
> > When I added the definition
> > ArcTanh[x,y]:=Log[(x+y)/SQRT[x^2−y^2]] (due
>
> By the way, the names of the inverse hyperbolic functions should be
> arsinh, arcosh, artanh etc. and not arc*. The latin names of the functions
> are 'area sinus hyperbolicus' etc. where 'area' refers to the area of a
> sector bounded by the unit hyperbola. In the trigonometric case, 'arc' is
> correct because the value of the function represents the length of an arc.
> (It could also be considered as area of a sector and therefore, 'ar' would
> in principle be correct also here, but it has never been used.) In the
> hyperbolic case, there is no arc, and the use of 'arc' should be considered
> as a mistake.

A mistake in that sense, but "arc" has very wide usage. And
it's standardized in the open math standard, e.g.,

http://www.openmath.org/cocoon/openmath/cd/transc3.html#arctanh

I believe their case for standardizing such things, including
the definitions of principal branches, is compelling.

−− David

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