Subject: Re: complex arithmetic
Posted by isaacman on Wed, 06 Apr 1994 15:37:00 GMT
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In article <thompson.765642193@serts.gsfc.nasa.gov>, thompson@serts.gsfc.nasa.gov (William Thompson) writes...
> I think the problem is that such problems are degenerate--there is more than
> one correct answer. For example, if we define A and B to be
>
> IDL> A = COMPLEX(1,1)
> IDL> B = COMPLEX(-1,-1)
>
> and C to be
>
> and B to be
>
> IDL> C = A^2
> IDL> PRINT, C
> (0.00000,   2.00000)
>
> then A can be thought of as the square root of C. However, so can B, because
> A^2 and B^2 resolve to the same value. Thus, which is the correct answer for
> C^(0.5)?
>
> Evidently, IDL gets around this ambiguity by not allowing one to calculate a
> complex number to a non-integer power, even if the floating point number could
> be simplified to an integer such as in your example above.

I don't agree with this at all. IDL has no problem taking the square
root of positive real numbers, even though (-2.)^2 = (2.)^2

Rich Isaacman