
Subject: Need Math Instruction

Posted by [David Fanning](#) on Thu, 07 Mar 2013 01:22:00 GMT

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Folks,

I need some help with a math problem. Here are some values and an expression. The result of the expression is a NaN.

```
arec= 7.0380332e-005
brec= 0.011374851
crec= 0.010008938
drec= 3.8378659e-005
Tprec = (brec-(brec^2 -4*arec)^(1.0/2))/(2*arec)
```

```
IDL> help, Tprec
TPREC      FLOAT    =      -NaN
```

I want to know why this is a NaN and how to explain the following results:

```
IDL> help, brec, arec
BREC      FLOAT    =    0.0113749
AREC      FLOAT    = 7.03803e-005
```

```
IDL> print, (brec^2 -4*arec)
-0.000152134
IDL> d = (brec^2 -4*arec)
IDL> help, d
D          FLOAT    = -0.000152134
```

```
IDL> print, d^(1.0/2)
-NaN
```

```
IDL> print, -0.000152134^(1.0/2)
-0.0123343
```

```
IDL> print, d, format='(F0.12)'
-0.000152134089
```

```
IDL> print, -0.000152134089D^(1.0/2)
-0.012334265
```

```
IDL> print, Float(-0.0001521340891486)^(1.0/2)
-NaN
```

```
IDL> print, -0.0001521340891486^(1.0/2)
-0.0123343
```

```
IDL> print, Double(-0.0001521340891486D)^(1.0/2)
      -NaN
```

```
IDL> print, -0.0001521340891486D^(1.0/2)
      -0.012334265
```

Any ideas?

Thanks,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>

Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Need Math Instruction

Posted by [DavidF\[1\]](#) on Thu, 07 Mar 2013 22:41:02 GMT

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On Thursday, March 7, 2013 3:30:44 PM UTC-7, Craig Markwardt wrote:

> On Wednesday, March 6, 2013 11:52:54 PM UTC-5, Jeremy Bailin wrote:

>

>> Is it -4*arec or -4*arec*crec?

>

> Hah, nice catch! David, you should check your math again. Also whether the first term should be -BREC.

I really don't have **any** idea what you guys are talking about. You will have to explain it to me like I am a 5-year-old. :-)

David

Subject: Re: Need Math Instruction

Posted by [Michael Galloy](#) on Thu, 07 Mar 2013 23:31:35 GMT

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On 3/7/13 3:41 PM, Coyote wrote:

> On Thursday, March 7, 2013 3:30:44 PM UTC-7, Craig Markwardt wrote:

>> On Wednesday, March 6, 2013 11:52:54 PM UTC-5, Jeremy Bailin

>> wrote:

>>

>>> Is it -4*arec or -4*arec*crec?

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>> Hah, nice catch! David, you should check your math again. Also
>> whether the first term should be -BREC.
>
> I really don't have *any* idea what you guys are talking about. You
> will have to explain it to me like I am a 5-year-old. :-)
>
> David
>

Your Tprec expression looks suspiciously like the quadratic formula,
but, if so, has a couple typos.

Mike

--

Michael Galloy

www.michaelgalloy.com

Modern IDL: A Guide to IDL Programming (<http://modernidl.idldev.com>)

Research Mathematician

Tech-X Corporation

Subject: Re: Need Math Instruction

Posted by [DavidF\[1\]](#) on Thu, 07 Mar 2013 23:34:49 GMT

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On Thursday, March 7, 2013 4:31:35 PM UTC-7, Mike Galloy wrote:

> Your Tprec expression looks suspiciously like the quadratic formula,
> but, if so, has a couple typos.

Ah, a misspent youth drinking beer and chasing women instead of paying attention in math class,
I guess. :-)

Cheers,

David
