
Subject: Need Math Instruction

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

[View Forum Message](#) <> [Reply to Message](#)

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.")
