

# Re: Complex algebra problem

---

*Source:* <http://sci.tech-archive.net/Archive/sci.math/2007-05/msg01860.html>

---

- *From:* "G. A. Edgar" <[edgar@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:edgar@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx)>
  - *Date:* Thu, 10 May 2007 14:56:39 -0400
- 

In article <1178820230.634330.188070@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>, <luiroto@xxxxxxxx> wrote:

What's the solution of this equation?:  
 $X = 2 \ln(X)$ .  
Thanks. Ludovicus

No real solutions.  
Complex solutions  $-2 W(-1/2)$ , where  $W$  is the Lambert  $W$  function. Get many solutions by taking all the branches of  $W$ .

Using the principal branch of  $\log$ , we get approximately  
 $x = 1.588047265 + 1.540223501 i$  and  
 $x = 1.588047265 - 1.540223501 i$

--  
G. A. Edgar <http://www.math.ohio-state.edu/~edgar/>