

## Problem of the Week-3: A Geometric Sum

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Let  $a$  be a positive number such that  $a^{2013} - 7a + 6 = 0$ . Find all possible values of the sum  $1 + a + a^2 + \cdots + a^{2012}$ .

As always, show your work, fully explain and justify your answer.

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Posting Date 2/9/13. Submit solutions to Noah Aydin, Mathematics Department, RBH 319 (e-mail or hard-copy, but hard copy submissions must include a time stamp) by 4 pm on 2/21/13.