

Cal Poly Department of Mathematics

Puzzle of the Week

Oct 2 - 8, 2014

A sequence of positive integers $\{a_n\}_{n=1}^{\infty}$ satisfies

$$a_{n+3} = a_{n+2}(a_{n+1} + a_n), \quad n = 1, 2, 3, \dots$$

If $a_6 = 8820$, determine the possible values of a_1, a_2, a_3, a_7 , and a_8 .

Solutions should be submitted to Morgan Sherman:

Dept. of Mathematics, Cal Poly

Email: sherman1 -AT- calpoly.edu

Office: bldg 25 room 310

before next Thursday. Those with correct and complete solutions will have their names listed on the puzzle's web site (see below) as well as in next week's email announcement. Anybody is welcome to make a submission.

<http://www.calpoly.edu/~sherman1/puzzleoftheweek>