

Cal Poly Department of Mathematics

Puzzle of the Week

Feb 20-26, 2014

For every $r > 1$ calculate the value of

$$\sum_{n=0}^{\infty} \frac{2^n}{r^{2^n} + 1} = \frac{1}{r + 1} + \frac{2}{r^2 + 1} + \frac{4}{r^4 + 1} + \frac{8}{r^8 + 1} + \dots$$

Solutions should be submitted to Morgan Sherman:

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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>