

Problem of the Week-3: Repunits in Base 5

A *repunit* (for repeated unit) in base b is a number that contains only the digit 1 in its representation. Prove that any repunit in base 5 with an even number of digits is the product of two consecutive positive integers.

Posting Date 2/09/09. 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 2/13/09.