Bilkent University
Department of Mathematics

PROBLEM OF THE MONTH

Term: March 2017

Let $S_r(n) = 1^r + 2^r + \cdots + n^r$ where r is a rational number and n is a positive integer. Find all triples (a, b, c) where a and b are positive rational numbers and c is a positive integer for which there exist infinitely many positive integers n satisfying $S_a(n) = (S_b(n))^c$.