



Bilkent University
Department of Mathematics

PROBLEM OF THE MONTH

Term: December 2015

Let $a \geq b \geq 0$ be real numbers. Find the area of the region $K \in \mathbb{R}^2$ defined by

$$K = \{(x, y) \in \mathbb{R}^2 : x \geq y \geq 0 \text{ and } x^n + y^n \leq a^n + b^n \text{ for all positive integers } n\}.$$