Bilkent University
Department of Mathematics

PROBLEM OF THE MONTH

Term: February 2018

Find the largest real number T for which the inequality

$$\frac{x^2 + 1}{(x + y)^2 + 4(z + 1)} + \frac{y^2 + 1}{(y + z)^2 + 4(x + 1)} + \frac{z^2 + 1}{(z + x)^2 + 4(y + 1)} \geq T$$

holds for all positive real numbers x, y and z.