



Bilkent University
Department of Mathematics

PROBLEM OF THE MONTH

Term: March 2019

Find the minimal possible value of $ab + bc + ac$ over all positive numbers a, b, c satisfying

$$abc = 1, \quad a + b + c = 5 \quad \text{and}$$

$$(ab + 2a + 2b - 9)(bc + 2b + 2c - 9)(ca + 2c + 2a - 9) \geq 0.$$