



Bilkent University
Department of Mathematics

PROBLEM OF THE MONTH

Term: April 2023

Find the smallest value of

$$xy^3z^2 + \frac{4z}{x} - 8yz - \frac{4}{xy}$$

where x, y, z are positive real numbers satisfying at least one of the following inequalities:

$$xy > \frac{1}{2} \quad \text{and} \quad yz > 1.$$