

Proposed problem to Mathematical Reflections

Proposer: Paolo Perfetti

Dipartimento di Matematica, Università degli studi di Tor Vergata Roma,
Italy – email: perfetti@mat.uniroma2.it

Let a, b, c be positive real numbers. Prove that

$$2a\sqrt{9b^2 + 16c^2} + 2b\sqrt{9c^2 + 16a^2} + 2c\sqrt{9a^2 + 16b^2} + \\ + 15abc \left(\frac{1}{2b + 3c} + \frac{1}{2c + 3a} + \frac{1}{2a + 3b} \right) \geq 13(ab + bc + ca)$$