

SOLUTION - PROBLEM OF THE MONTH, OCTOBER 2017

Congratulations to *Piotr Laskawiec* who found a correct solution of the October Problem!

A 4-coloring of the plane is a function $f: \mathbb{R}^2 \rightarrow \{\text{red}; \text{blue}; \text{green}; \text{purple}\}$, which assigns to each point in the plane exactly one of the colors red, blue, green, or purple.

Prove that for every 4-coloring of the plane, one will always have two points at distance 1 or distance $\sqrt{3}$ from each other which are