1067-Z1-565   **Iwan Praton*** (`iwan.praton@fandm.edu`), Department of Mathematics, Franklin and Marshall College, Lancaster, PA 17604. *Tiling a square with squares.* Preliminary report.

Pack a unit square with n squares of side lengths $s_1, \ldots, s_n$. Define $\phi(n) = \max \sum s_i$, where the maximum is taken over all packings of the unit square where the sides of the small squares are parallel to the sides of the unit square. Define also $\psi(n) = \max \sum s_i$, where the maximum is taken over all tilings of the unit square. (A tiling is a packing with no space left empty.) Clearly $\phi(n) \geq \psi(n)$. Staton and Tyler asked for what values of n we have $\phi(n) = \psi(n)$. We show that $\phi(8) \neq \psi(8) = 2.6$ and look at some other values of n. (Received September 09, 2010)