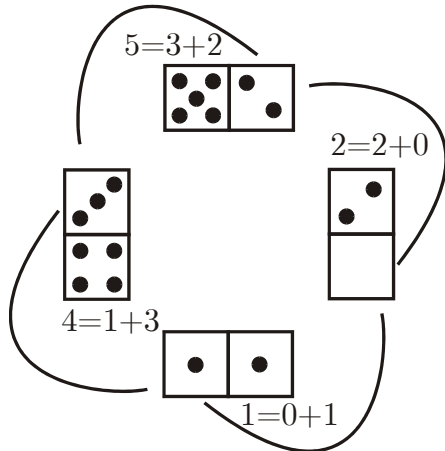


Problem of the Week

Proposed by Bernardo Ábrego and Silvia Fernández. **October 25-November 1**



Consider the standard 28-domino set. Circular chains of dominoes can be formed according to the next rule: domino $\boxed{a|b}$ can be placed right before domino $\boxed{c|d}$ in clockwise order if $b + d = c$.

Show that it is possible to form a circular chain that uses each of the 28 dominoes exactly once.

Additional questions for possible projects.

1. Consider the domino set where each of the two ends can have an integer number between 0 and n . This set would have $(n+1)(n+2)/2$ pieces (why?). The regular domino set is obtained with $n = 6$. Show that it is possible to form a circular chain, following the rule above, that uses all of the dominoes exactly once.
2. How many different circular chains are there? (we can consider two chains the same if one can rotate one to obtain the other)