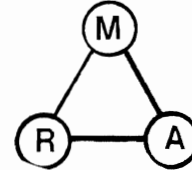


WORD TILING

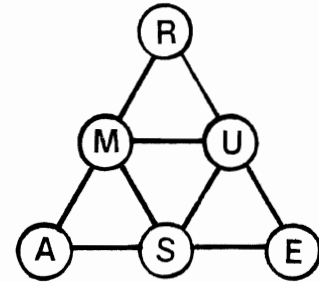
Chris Cook
 Loveland, Ohio

Jeremiah Farrell
 Indianapolis, Indiana

RAM is a triangular tile of size $n=1$. It has three "lines" RA, MR, and AM.



The base word AMUSER (an extension of RAM) is tiled by four triangles as indicated in the diagram. Notice in this $n=2$ case that the five possible triangles generate the words ARE (the big triangle), RUM, SUM, SAM and SUE. As a bonus the six lines yield, on transposition, the words MAR, US, RUE, MS, SEA, and MU.



We have extended the base word to MOUSETERIAN (pertaining to a late Paleolithic period) so that $n=3$. There will be $N=13$ triangles of various sizes and $L=9$ lines. As a puzzle we define the 22 words and ask the reader to fill the diagram appropriately. Our solution appears in Answer and Solutions.

For those readers wishing to extend these results, the total Number, N of triangles (including inverted ones) is given by

$$N = \begin{cases} (1/8)n(n+2)(2n+1) & \text{for } n \text{ even} \\ (1/8)(n(n+2)(2n+1)-1) & \text{for } n \text{ odd} \end{cases}$$

The number of lines is $L=3n$.

Definitions:

Triangles: 1. Sped 2. Explorer Johnson 3. French Water 4. Charged particle 5. Japanese monetary unit 6. Start of a count-down 7. Stooze Howard 8. Miss Piggy question 9. Holt, of oaters 10. Grog liquor 11. Preside 12. Title 13. Actor Erwin

Lines: 1. Geological time 2. Heavenly bear 3. VCR button 4. a mantra 5. Holy one, abbr. 6. OR person 7. Edge 8. Word with star or cup 9. ___-disant

