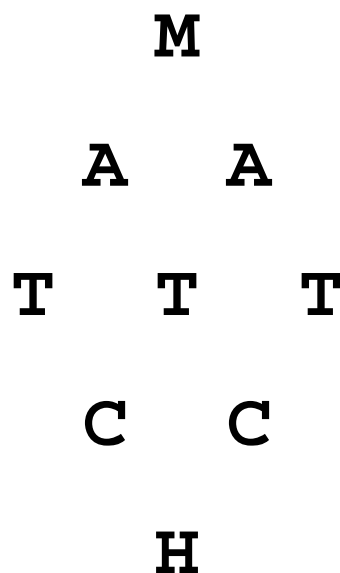




This brainteaser was supplied by the Mathematical Olympiads for Elementary and Middle Schools (www.moems.org).

In the diagram below, each “path” from top to bottom correctly spells the word MATCH.
What is the total number of different paths in the diagram?





Solution: 12 paths.

To spell the word MATCH, there is one way to choose the M, two ways to choose an A, three ways to choose a T, two ways to choose a C, and one way to choose the H. That results in a total of $1 \times 2 \times 3 \times 2 \times 1 = 12$ possible paths.

Several sample paths are shown below.

