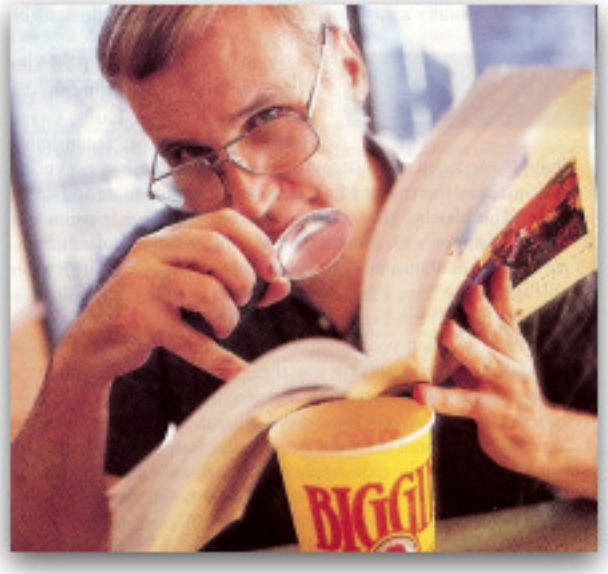
These are a few sample test questions from Mr. Pleomorph. Both he and Ms. Chameleon all got all 48 questions right.

Mega test – If you answer 1 question of this 48 question test, your IQ is 100

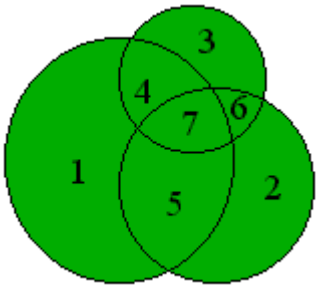
1	100RH to 113GT
8	128GT to 130RH to 134SM
16	140RH
22	147RH to 150SM-GT
33	160RH to 164SM to 168GT
42	174RH to 176SM to 183GT
43	177RH (Mega Society cutoff)
44	180RH to 192GT
45	174KL
46	186RH to 198GT
47	190RH to 200GT
48	193RH to 202GT

American philosopher Ronald Hoeflin (IQ=164): creator of the **Mega test**, the first test designed to measure IQs above 145.



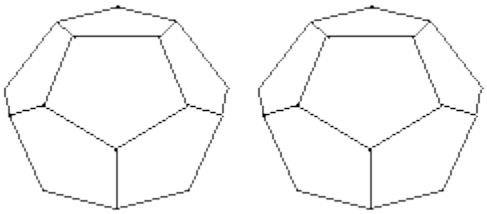
Intersecting Surfaces

1. Three mutually intersecting circles (as illustrated to the right) can yield a maximum of seven completely bounded areas, counting only areas that are not further subdivided. What is the maximum number of completely bounded areas not further subdivided that can be obtained using three mutually intersecting circles plus two triangles?



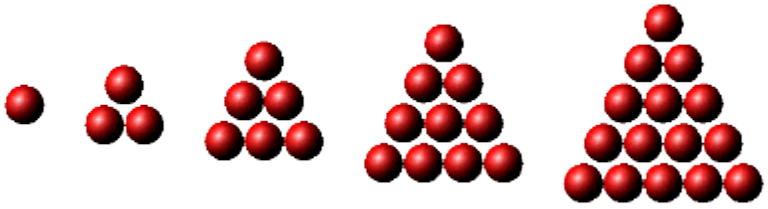
Game Problem

2. Suppose a modified version of the dice game craps is played with two regular (i.e., perfectly symmetrical) dodecahedra. Each die has its sides numbered from 1 to 12 so that after each throw of the dice the sum of the numbers on the top two surfaces of the dice would range from 2 to 24. If a player gets the sum 13 or 23 on his first throw (a natural), he wins. If he gets 2, 3, or 24 on his first throw (craps), he loses. If he gets any other sum (his point), he must throw the dice again. On this or any subsequent throw the player loses if he gets the sum 13 and wins if he gets his point but must throw both dice again if any other sum occurs. The player continues until he either wins or loses. To the nearest percent, what is the probability at the start of any game that a dice thrower will win?



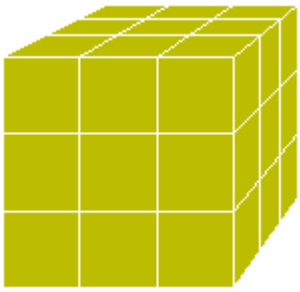
The Crystal Problem

3. Suppose a tetrahedral-shaped crystal is formed, like a giant pile of apples or oranges at a greengrocer's store, consisting of one atom on the top layer, three on the next-to-top layer, six on the third layer, ten on the fourth layer, and so forth as illustrated below. If there are exactly 1,000,000 layers, specify the total number of atoms in the entire crystal. Give an exact answer, not an approximate one or a formula for making the calculation.



Cube Stack Problem

4. Suppose 27 identical cubes are glued together to form a cubical stack, as illustrated to the right. If one of the small cubes is omitted, four distinct shapes are possible: one in which the omitted cube is at a corner of the stack, one in which it is in the middle of an edge of the stack, one in which it is in the middle of a side of the stack, and one in which it is at the core of the stack. If two of the small cubes are omitted rather than just one, how many distinct shapes are possible?



Crawling Ant Problem

5. Suppose there are ants at each vertex of a triangle and they all simultaneously crawl along a side of the triangle to the next vertex. What is the probability that no two ants will encounter one another?