INSIGHT

EDITORIAL

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Dues: I have decided to request $10.00 dues for 1987. If you consider this excessive, send whatever you deem appropriate. But in any case, please send me a note to indicate your continued interest in being a member of this group. If I do not hear from you by March 1, I may drop you from membership.

Size of "Insight": I shall continue with the 4-page, reduced-size format at least for the time being. I may go to 8 pages later if and when I can afford a saddle stapler, which would permit me to staple two sheets like this together along the central crease. If this size is hard on anyone's eyes, let me know. I myself use a magnifying glass to read due to a visual handicap, but you might find that approach unappealing if you are not used to it.

Trial Test "B": This issue contains the second in a series of tests leading up to a new test for Omni magazine. You will notice that the verbal problems are multiple-choice but that the non-verbal ones are not. The latter will be converted to multiple-choice once I see what range of mistakes are commonly made. But the final test will be entirely multiple-choice, so you may get a second chance at the non-verbal items later.

Questionnaire Responses: I now have responses to the questionnaire that appeared in issue #8 from Chris Cole, Eric Hart, Richard May, Jeff Ward, and Ray Wise. The results will be published in the next issue probably. If you have not submitted your own responses yet, now is the time to do so or forever hold your peace.

New Material: If you are not participating because you do not find the material in this journal of interest, feel free to submit items that you think might spark a new line of discussion.

My Doctoral Dissertation: I may include a copy of the abstract of my doctoral dissertation in the next issue. Anyone who would like to have a bound copy of the entire dissertation would be offered one for a fee of $15.00 or $20.00 to cover the cost of duplicating and mailing it.

Happy New Year!

TRIAL TEST "B"

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Omni magazine's puzzle editor has expressed interest in publishing a new test by me, preferably a multiple-choice test this time rather than a fill-in-the-blank test like my Mega Test, which was published in the April 1985 issue of Omni.

About 10 or 12 of the problems in my Trial Test "A" (Vidya #68, pages 4-5) can be modified to the multiple-choice format, but an entirely new sort of verbal problem is needed, so the verbal items in this test are somewhat more experimental than usual.

I hope to accumulate enough problems for 3 or 4 tests of 50 or 60 problems apiece, so it will take at least 4 more test such as this one to end up with a sufficient number of problems.

Instructions

Time Limit: There is no time limit, but it would be helpful if you could submit your answers within two months. Revised answers will not be accepted, so do your best the first time.

Guessing: There is no penalty for guessing, so you should give an answer for every item. Your total raw score will be reported to you along with a graph showing how well other participants scored.

Fee: I have decided to charge a $5.00 scoring fee, but if this is a financial hardship for anyone, I will accept in lieu a stamped, self-addressed envelope. (Non-U.S. participants: you may omit the stamp, and if you decide to pay $5.00, send U.S. or foreign currency only, not checks or money orders.)

Verbal Problems

For each of these problems you are to find the word that does not belong with the other four and write the letter of that word on your answer sheet. For example, in the set (A) red, (B) pink, (C) purple, (D) blue, (E) scarlet, the best answer would be (D) because each of the other four has some degree of redishness. It would be wrong to answer, say, (C) giving as one's reason the fact that the other four items are "non-purple," since obviously this same reasoning could be used to single out any of the other four items, thus yielding no unique solution. If after ruling out answers of this sort, i.e., the "not such-and-such" sort of solution, you still can find more than one plausible answer, then pick the answer you believe that most intelligent people would be most likely to pick.

Verbal Problems (continued)

1. (A) Aluminum, (B) Tin, (C) Bronze, (D) Zinc, (E) Copper
2. (A) Peanut, (B) Filbert, (C) Pecan, (D) Walnut, (E) Brazil nut
3. (A) Malta, (B) Cypress, (C) Crete, (D) Corsica, (E) Sardinia
4. (A) Auto-, (B) Physio-, (C) Neuro-, (D) Demo-, (E) Pluto-
5. (A) Essential, (B) Formal, (C) Efficient, (D) Material, (E) Final
6. (A) School, (B) Spirit, (C) Army, (D) Pack, (E) Pride
7. (A) Am, (B) He, (C) Be, (D) No, (E) Is
8. (A) Noisome, (B) Boisterous, (C) Clamorous, (D) Loud,
   (E) Cacophonous
9. (A) Frenzy, (B) Vertigo, (C) Suspicion, (D) Notorious,
   (E) Ominous
10. (A) Benjamin, (B) Samuel, (C) Dan, (D) Reuben, (E) Simeon
11. (A) Lied, (B) Lent, (C) Lead, (D) Let, (E) Loaned
12. (A) Flat, (B) Green, (C) Ice, (D) Ire, (E) Fin
13. (A) War, (B) Cruelty, (C) Famine, (D) Pestilence, (E) Death
14. (A) Electron, (B) Positron, (C) Pion, (D) Muon, (E) Neutrino
15. (A) Hot, (B) Big, (C) Sling, (D) Mug, (E) Shine
16. (A) Mail, (B) Guard, (C) Ball, (D) Board, (E) House
17. (A) Mendelev, (B) Nobel, (C) Planck, (D) Einstein, (E) Fermi
18. (A) Contentious, (B) Querulous, (C) Pugnacious, (D) Agressive,
    (E) Combative
19. (A) Mono-, (B) Mega-, (C) Paleo-, (D) Meso-, (E) Infra-
20. (A) Brought, (B) Conceived, (C) Sought, (D) Dedicated,
    (E) Created
21. (A) Bite, (B) Kite, (C) Mite, (D) Rite, (E) Site
22. (A) Vim, (B) Woof, (C) Bushy tailed, (D) Let live, (E) Cry
23. (A) A, (B) C, (C) G, (D) I, (E) T
24. (A) 1493, (B) 1777, (C) 1901, (D) 1999, (E) 2001
25. (A) Transcendental, (B) Metaphysical, (C) Natural, (D) Odd,
    (E) Irrational

Numerical Problems

26. Suppose a black box contains ten marbles of unknown colors.
    The marbles' colors can be determined only by selecting one
    marble at a time at random from the box, but it must be re-
    turned to the box and mixed thoroughly with the rest before
    another marble is chosen for inspection. If ten marbles are
    inspected in this way and all turn out to be white marbles,
    what is the probability at this point that the box contains
    only white marbles? (Round to the nearest whole percent.)

27. What is the numerical value of x in the following sequence:

$$\frac{4}{10} \quad \frac{x}{100} \quad \frac{168}{1,000} \quad \frac{1,229}{10,000} \quad \frac{9,592}{100,000} \quad \frac{78,448}{1,000,000} \quad \cdot \cdot \cdot$$

What number comes next in each of these sequences?

28. 4 36 144 400 900 1764 3136 5184 ?
29. 1 3 8 20 48 112 256 576 1280 ?

(continued on the next page)

Spatial Problems

30. Suppose a lump of clay is shaped into a tetrahedron and that it is sliced six times with a knife, each knife stroke being perfectly straight (i.e., planar), with the pieces formed by the knife strokes never being rearranged. What is the maximum number of tetrahedral (i.e., 4-sided) pieces of clay that can thereby be formed, not counting pieces that are further subdivided?

Suppose there is a polyhedron all of whose edges are of equal length, and suppose there is an ant at each vertex of the poly-hedron. Suppose further that each ant randomly selects one of the edges that meet at its vertex and crawls along it until it arrives at the next vertex. If all of the ants start out simul-taneously, crawl at equal speeds, never reversing direction, and arrive at the next vertex simultaneously, what is the probability that no two ants will encounter one another? Solve this problem for each of the following polyhedra:

31. A tetrahedron.

32. A cube.

33. An octahedron.

34. A dodecahedron.

35. An icosahedron.

A view of each of these polyhedra is shown below.
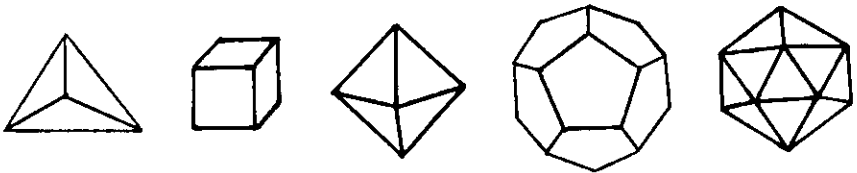
36. Suppose an ant crawls along the edges of a one-cubic-inch cube at a rate of one inch per minute, never reversing direction. At each corner it comes to there is an even chance that it will turn right or left. If the ant starts at a corner, what is the probability that at the end of 100 minutes it will be back at that same corner?

END OF TEST