

May 2008 Puzzle

Complete the following multiple choice quiz.

- 1) The first question that has B as the correct answer is question:
A. 1 B. 4 C. 3 D. 2
- 2) The answer to question 4 is:
A. D B. A C. B D. C
- 3) The answer to question 1 is:
A. D B. C C. B D. A
- 4) The number of questions which have D as the correct answer is:
A. 3 B. 2 C. 1 D. 0
- 5) The number of questions which have B as the correct answer is:
A. 0 B. 2 C. 3 D. 1

May 2008 Solution

The answers are: 1) C 2) D 3) B 4) C 5) B

Reasoning: We begin with the following choices of answers (1:ABCD, 2:ABCD, 3:ABCD, 4:ABCD, 5:ABCD). At each step of the argument we will gray out the answer choices that we have eliminated for consideration.

First note that the answer to #1 cannot be A, as that would indicate that the answer to #1 is B, which is self contradictory. Now observe that the answer to #1 cannot be B, as that would indicate that #4 would be the first question with an answer of B, which wouldn't be true since #1 would have an answer of B. (1:ABCD, 2:ABCD, 3:ABCD, 4:ABCD, 5:ABCD)

Since the answer to #1 cannot be A or B, we can immediately conclude that the answer to #3 cannot be C or D. (1:ABCD, 2:ABCD, 3:ABCD, 4:ABCD, 5:ABCD)

We will now explain why #1 cannot have an answer of D and must therefore have an answer of C. If the answer to #1 were D, this would indicate that the answer to #2 was B, which implies that the answer to #4 is A, which implies that three of the questions have an answer of D. But this is impossible, since at that point we would know that answers 2, 3, and 4 aren't D, leaving only questions 1 and 5 to have an answer of D, which is not enough to yield a total of three questions with answer D. So the supposition that the answer to 1 is D cannot be maintained leaving only the choice of C for #1. This then indicates that the answer to #3 is B and that the answer to #2 is not B. (1:ABCD, 2:ABCD, 3:ABCD, 4:ABCD, 5:ABCD)

The answer to #4 cannot be D, as that would indicate that there are no questions with D as an answer, which is self contradictory. As a result, the answer to #2 cannot be A. (1:ABCD, 2:ABCD, 3:ABCD, 4:ABCD, 5:ABCD)

At this point, the maximum number of questions with answer D is two, since only #2 and #5 could have an answer of D. Thus the answer to #4 cannot be A. (1:ABCD, 2:ABCD, 3:ABCD, 4:ABCD, 5:ABCD)

We will now explain why the answer to #4 cannot be B and must therefore be C. If the answer to #4 were B, then the two questions that would have D as the correct answer would have to be questions #2 and #5. But if the answer to #2 were D, that would indicate that the answer to #4 is C, which contradicts the assumption that the answer to #4 is B. So it cannot be the case that #4 has an answer of B and so it must be C. As a consequence we now know that the answer to #2 is D. In addition, since #4 tells us that only one question has an answer of D, the answer to #5 cannot be D. (1:ABCD, 2:ABCD, 3:ABCD, 4:ABCD, 5:ABCD)

With only question #5's answer left to be determined and with #3 being the only question with an answer of B, the only possible for #5 is B, which leads to the consistent statement that there are two questions with B as the correct answer, namely, questions #3 and #5. Final Answers (1:ABCD, 2:ABCD, 3:ABCD, 4:ABCD, 5:ABCD) DID YOU FOLLOW THAT??? ☺