

QUESTION 2

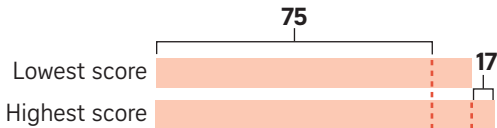
Leonard took four mathematics tests. The average score of the four tests was 86. His lowest score was 17 marks lower than his highest score. His lowest score was no less than 75.

Which of the following cannot be his scores for the other two tests?

- 1) 85, 90 2) 83, 92 3) 84, 89 4) 88, 91

SOLUTION

**Total score for
4 tests = $86 \times 4 = 344$**



CONSIDER OPTION 1:

Total score of the other 2 tests = $85 + 90 = 175$

So, total score of the highest and lowest tests = $344 - 175 = 169$

Therefore the lowest score = $(169 - 17) / 2 = 76$ (which is greater than 75)

Thus, the total scores in Option 1 are possible.

NEXT, CONSIDER OPTION 2:

Total score of the other 2 tests = $83 + 92 = 175$
This is the same as that for Option 1.

Thus the test scores in Option 2 are possible.

LET'S CONSIDER OPTION 3:

Total score of the other 2 tests = $84 + 89 = 173$
So, the total score of the highest and lowest tests = $344 - 173 = 171$

Therefore the lowest score = $(171 - 17) / 2 = 77$ (which is greater than 75)

Thus, the test scores in Option 3 are also possible.

By elimination, the test scores in Option 4 cannot be his scores for the other two tests.