



22. Three friends make the following statements.

Ben says, "Exactly one of Dan and Cam is telling the truth."

Dan says, "Exactly one of Ben and Cam is telling the truth."

Cam says, "Neither Ben nor Dan is telling the truth."

Which of the three friends is lying?

- A Just Ben      B Just Dan      C Just Cam      D Each of Ben and Cam  
E Each of Ben, Cam and Dan

1692



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22. C Suppose first that Cam is telling the truth, so Ben and Dan are both lying. Then Ben's statement is actually correct, as is Dan's. There is a clear contradiction. So we know that Cam is in fact lying. Therefore at least one of Ben and Dan is telling the truth. If Ben is telling the truth, then we learn that Dan is telling the truth. If Dan is telling the truth then we learn that Ben is telling the truth. So both Ben and Dan are telling the truth. This means that only Cam is lying.