



Decoding the puzzle

Information #1: Albert doesn't know when Cheryl's birthday is.

Conclusion: This piece of information provides no help. Given that Albert only knows the month, there is no unique solution which would correspond to this.

Information #2: Albert knows that Bernard doesn't know the birthday.

Conclusion: This information is disguisingly critical. Bernard could only know the solution from the outset if the day corresponded to exactly one month. For example, if Cheryl told Bernard "19", Bernard would know that the solution is "May 19", and the same applies with "18" and "June 18". If Albert knows that Bernard does not know the solution, this implies he knows that **May 19** and **June 18** are not solutions. The only reason he knows these are not solutions is based on the month he was given. Therefore, the month of Cheryl's birthday cannot be May or June, so the reader (and Bernard) knows that the month must be July or August.

Information #3: Bernard, who is now aware of Information #2, now knows the solution.

Conclusion: Bernard, who now knows the month of the solution is July or August, could only know the date if the day he was provided with could be uniquely associated with one of the dates in the set of possible solutions falling in July or August, which is {July 14, July 16, August 14, August 15, August 17}. Given that Bernard knows the solution, it is impossible that Bernard was told "14". Therefore, the solution must be **July 16, August 15 or August 17**.

Information #4: Knowing Information #3, Albert knows the solution.

Conclusion: At this point, Albert knows that the date is **July 16, August 15 or August 17**. The only way for Albert to know the solution would be based on the month he was told, which means that he must have been told "July", and the solution is **July 16**.