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TUGAS 2

“I am either clever or lucky”. “I am not lucky”. “If I am lucky, then I will win the lottery”. **Lead to the conclusion if I am lucky, then I am clever.**

* Let p = I am clever,
* Let q = I am lucky,
* Let r = I will win the lottery
* I am either clever or lucky: p ∨ q
* I am not lucky: ¬q
* If I am lucky, then I will win the lottery: q → r
* **If I am lucky, then I am clever: q → p**

Analysis:

1. ¬q (Second hypothesis)
2. p ∨ q (First hypothesis)
3. p (Disjuctive syllogism from step 2)
4. q → r (Third hypothesis)
5. Cannot take result from step 4 (There is no connection)
6. q → p (Conclusion Hypothesis)
7. ¬q ∨ p (Equivalen from step 6)
8. Since we conclude that p is always true, we actually do not need q premis, since the result will always be the same

Summary : The conclusion if I am lucky, then I am clever is logically true, since the implication p is always true from the third step, that means even though the premis is q or ¬q it will always be valid regardless of premis. So we can take two conclusion

* If I am lucky, then I am clever
* If I am not lucky, then I am clever

So the conclusion is in one of the result, **that means that the conclusion If I am lucky, then I am clever is valid.**

If we take another close look from the equivalen ¬q ∨ p, since p is true, and we get ¬q from the first step, that means ¬q ∨ p is valid and thus q → p is also valid