

‘Real’ Arguments

Symbolize the following arguments (use the letters as indicated), and use any method of your choice (full truth-table, short truth-table, algebra, truth-tree, etc) to determine its validity.

(the following passages are from “Elements of Logic” by Stephen Barker, 2nd edition)

1. The contract is valid if and only if it was properly signed. Therefore, it is not the case that the contract is valid without having been properly signed. (V, S)

2. If they like to read both Shelly and Byron, then they’ll like to read Wordsworth too. But they do not like to read Wordsworth. Therefore, if they like to read Shelley, they do not like to read Byron. (S, B, W)

3. If you have been convicted of manslaughter or of drunken driving, then your license will be revoked. But you have not been convicted of manslaughter. Therefore, if your license is to be revoked, you have been convicted of drunken driving. (M, D, L)

4. If the seal has not been broken and the routine servicing has been performed, the guarantee is in effect. The owner is responsible for the damage only if the routine servicing has not been performed or the seal has been broken. Hence the guarantee is in effect unless the owner is responsible for the damage. (S, R, G, O)

5. Either Thales said that nothing moves and Parmenides didn’t say it, or else Parmenides said it and Heracleitus denied it. If Thales had said it, his thought would not have conformed to the viewpoint of the Milesian school. Thales’ thought did conform to the viewpoint of the Milesian school. Therefore, Heracleitus denied that nothing moves. (T, P, H, M)

6. If the tenant has caused more than normal wear and tear, or has sublet the apartment without the landlord’s permission, then the landlord may confiscate the security deposit. The landlord may confiscate the security deposit if and only if the tenant has acted improperly and violated the terms of the lease. Thus, the tenant has not violated the terms of the lease unless he has caused more than normal wear and tear. (W, S, C, I, V)

7. If Descartes had denied the existence of spiritual substance, he would have been a materialist, and if he had denied the existence of physical substance, he would have been an idealist. If he had been either an idealist or a materialist, he would have been a monist. But Descartes was not a monist. Therefore, he did not deny the existence of either spiritual or physical substance. (S, M, P, I, Mo)

(the following passages are from “Critical Thinking” by Moore and Parker, 6th edition)

1. If Maria does not go to the movies, then she will help Bob with his logic homework. Bob will fail the course unless Maria helps him with his logic homework. Therefore, if Maria goes to the movies, Bob will fail the course. (M, H, F)
2. The creation story in the book of Genesis is compatible with the theory of evolution only if the creation story is not taken literally. If there is plenty of evidence for the theory of evolution, which there is, then the Genesis story cannot be true if not compatible with evolution theory. Therefore, if the Genesis story is taken literally, it cannot be true. (C, L, E, G)
3. If there was no murder committed, then the victim must have been killed by the horse. But the victim could have been killed by the horse only if he was trying to injure the horse before the race, and in that case there was certainly a crime committed. So, either way, there was a crime committed. (M, K, I, C)
4. Holmes cannot catch the train unless he gets to Charing Cross Station by noon, and if he misses the train, Watson will be in danger. Because Moriarty has thugs watching the station, Holmes can get there by noon only if he does in disguise. So, unless Holmes goes in disguise, Watson will be in danger. (T, N, W, D)
5. If the government’s position on fighting crime is correct, then if more people are locked up, the crime rate should drop. But the crime rate has not dropped, despite the fact that we’ve been locking up people in record numbers. It follows that the government’s position on fighting crime is not correct. (C, L, D)
6. The new road will not be built unless the planning commission approves the funds. But the planning commission’s approval of the funds will come only if the environmental impact report is positive, and it can’t be positive if the road will ruin Mill Creek. So, unless they find a way for the road not to ruin Mill Creek, it won’t be built. (R, A, E, M)
7. If profits depend on unsound environmental practices, then either the quality of the environment will deteriorate, or profits will drop. Jobs will be plentiful only if profits do not drop. So, either jobs will not be plentiful, or the quality of the environment will deteriorate. (U, Q, D, J)
8. The message will not be understood unless the code is broken, and the killer will not be caught if the message is not understood. Either the code will be broken, or Holmes’ plan will fail. But Holmes’ plan will not fail if he is given enough time. Therefore, if Holes is given enough time, the killer will be caught. (M, C, K, H, T)