

Worksheet 2 — February 5

Give the appropriate TF paraphrase for the following sentences. Don't replace unanalyzable sentences with proposition letters (p , q , r , etc.); just leave those in English. Be sure to use parentheses when appropriate. (Yes, some of the sentences are false.)

Example: We can translate "If Luke fought Vader, but didn't have a lightsaber, he lost" as:

$(\text{Luke fought Vader} \wedge \neg(\text{Luke had a lightsaber})) \supset \text{Luke lost}$

1. Either Gandalf is tall, or both Frodo and Sam are short.
2. 7 is neither between 10 and 15 nor before either of them.
3. Neither Earth nor Mars is further from the sun than either Jupiter or Saturn.
4. The bear will not attack if not provoked.
5. This 9 is in the same column as this 3, which is in the same row as this 2, which in turn is in the same box as this 7. (like Sudoku)
6. Both Six and Eight are cylons, but neither of them is important.
7. A bass is an instrument, not a fish.
8. The witch is wicked only if her skin is green.
9. She'll understand Aristotle if she read Plato.
10. Neither Harry nor Draco will succeed unless they work together.
11. Sheldon is to the right of Leonard, provided Sheldon is sitting in his spot.
12. If you're in the lab, then you cannot handle chemicals unless you're wearing goggles.
13. If Sherlock Holmes is real, then he'll take the case if and only if it's interesting.
14. I wouldn't follow you even if you were the last person on Earth!
15. The master fights only when he must.
16. The day she graduates will be the day she becomes a real doctor.
17. I'll go to graduate school when pigs fly.
18. He'll pass just in case he studies.