

Homework - Segment 1

Translate the following statements and identify the main operator:

- 1) Chewbacca is a Wookiee.
- 2) Luke is a Jedi and Leia is a general.
- 3) If Han flies solo, Yoda takes a nap.
- 4) Baby Yoda is happy if and only if Mando throws the ball.
- 5) Rey uses her lightsaber only if Endor has a forest moon.
- 6) If either Boba Fett or Jango Fett go to the party, Luke will run away.
- 7) Neither Luke nor Han is happy, but Yoda is having a great time.
- 8) Leia needs to leave if Yoda arrives.
- 9) Baby Yoda asking is the only thing that would get me to agree, but Baby Yoda did not ask.
- 10) It is not the case that Baby Yoda having a party is sufficient for Han to throw a fit.

Translate the following and answer the questions.

- 1) If either Han or Chewy is the pilot, Leia feels safe. Leia feels safe but Han is not the pilot.

Questions: Are these statements consistent? Are they logically equivalent? If consistent, under what condition could they all be true?

- 2) If Yoda taking a nap is necessary for Luke to leave, then Han will pilot the ship. If Han does not pilot the ship, then Luke leaves and Yoda does not take a nap.

Questions: Are these statements consistent? Are they logically equivalent?

- 3) Either Han is a pilot or Leia is a general. Yoda is napping and Han is not a pilot.

Question: What follows logically from these statements?

- 4) If both Chewy and Mando ask nicely, Rey will tell a joke. Mando asks nicely. Either Chewy asks nicely or Boba sings a song. Therefore, Rey will tell a joke.

Question: On what assumption does this argument rely?

- 5) If Boba or Chewy visits, then Han will clean. Leia will be pleased if Han cleans. Leia is pleased but Boba did not visit.

Question: If these statements are to all be true, what must be the case?