1 Which of the following are legal WFF of TL:

- $pU(q \land \diamond r)$:
- $p\square q$:
- $(Ur)$:
- $(f \land \Box g)U\Box \neg h$:
- $\Box july \land \Box august(\diamond september)$:
- $\Box may \lor \Box ((\Box april \lor \Box may))$:

2 Syntax

- “If a message is sent (send message) to a receiver, then the message will eventually be received (receive message)”:

- “It is always the case that, if either ‘have_passport’ or ‘have_ticket’ is false, then , in the next moment of time ‘board_flight’ will also be false”:

- “If someone is born, then it is living up until the point in time that it becomes dead”:

- “In the next moment in time, ‘running’ will be true and, at some time after that, ‘terminated’ will be true.”:

- “There is a moment in the future where either pink is always true, or brown is true in the next moment in time”:

- “In the second moment in time, ‘hot’ will be true.”:

- “When I start_lecture it implies that I have to talk up until the time to end_lecture”: 
• “If counter is less_than_7 keep increasing until it is more_than_7”:

• “wet is equivalent to not dry”:

3 Are both the expressions same or different?

• ◻(◻wumpus_moves)
• ◻(◇wumpus_moves)