



Exercise 4. Identify the prime sentences in each of the following statements, and then express each statement symbolically.

- a. “If I am either tired or hungry, then I cannot study.”
- b. “If it is over 100 degrees tomorrow, then either John must stay indoors or he must wear a hat.”
- c. “If either the Cardinals or the Cubs lose and the Reds win, then the Brewers will be out of first place and, moreover, I will lose a bet with my friend Tony.”
- d. “Chris will take the dog for a walk, unless it’s raining.” [Hint: Try to rephrase this sentence using the words *if* and *then* instead of *unless*.]
- e. “The sum of an even integer and an odd integer is an odd integer.”

Exercise 5. Complete the following truth table. What do you notice about the last two columns?

P	Q	$\neg P$	$\neg Q$	$P \vee Q$	$\neg(P \vee Q)$	$(\neg P) \wedge (\neg Q)$
T	T					
T	F					
F	T					
F	F					