1. Represent the following sentences in the language of sentential logic:
   • If it is the case that either the dog is in the house or it is raining then the house will be dirty; also, it’s humid today.
   • It is humid today if and only if the dog is in the house.
   • If the dog is in the house, it is humid today; also, if it is humid today then the dog is in the house.

2. Come up with a formula of sentential logic representing the meaning of:
   • Squid are tasty unless they are cooked poorly.

3. Show that there are no wffs of length 2, 3, or 6, but that any other length is possible.

4. Let \( \alpha \) be a wff; let \( c \) be the number of places at which binary connective symbols \( \land, \lor, \rightarrow, \leftrightarrow \) occur in \( \alpha \); let \( s \) be the number of places at which sentence symbols occur in \( \alpha \). Show that \( s = c + 1 \).

5. Prove that \( (A_3 \rightarrow \land A_1) \) is not a wff.