

Quiz: Translations

No books, calculators, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. Given the following symbolization key:

A : Yann is an anarchist.

B_1 : Emilie bikes to the revolution.

B_2 : Fred bikes to the revolution.

B_3 : Yann bikes to the revolution.

E : Emilie is a unionist.

F : Fred is a communist.

P_1 : Emilie flies to the World Social Forum.

P_2 : Fred flies to the World Social Forum.

P_3 : Yann flies to the World Social Forum.

T : Emilie is a Trotskyist.

Translate each English language statement into Propositional Logic.

- (1 mark) It is not the case that Yann is an anarchist.
- (3 marks) Fred is communist if and only if he does not fly to the World Social Forum and bikes to the revolution.

Translate each Propositional Logic statement into English.

- (2 mark) $\neg\neg E$
- (3 marks) $(P_1 \wedge P_2) \rightarrow \neg(F \wedge T)$

a) $\neg A$

b) $F \leftrightarrow [\neg P_2 \wedge B_2]$

c) It is not the case that Emilie is not a unionist.

d) If Emilie and Fred fly to the WSF then it is not the case that both Fred is a communist and Emilie a Trotskyist.