Please do not write on this paper, and do not forget to hand it back at the end.

LOGIC

Question 1 :

In this subject we are going to work with the three concepts of :

« implication », « contrapositive of an implication », « converse of an implication ».

To explain each of these concepts give an example.

Question 2 :

Let us assume that the following statement is true : « When the sun shines, then I go for a walk ».

a) We know that the sun is shining. Can you deduce anything ?

b) We know that I've stayed at home all day. Can you deduce anything ?

c) We know that the sky is grey. Can you deduce anything ?

Question 3 :

A team of meteorologists has conjectured the following rule to predict the weather :

« If it is cloudy during the night, then the following morning the average temperature is above 5°C »

To test their rule, they measured the conditions during four nights.

They wrote their results on four cards : on one side is written if the night was cloudy, on the other is written the average temperature during the morning.

Here are these four cards.

You can turn two and only two of the cards, to check if they confirm or infirm the rule.

Which cards do you choose ?

cloudy	Not cloudy	7°C	3°C