Math 46, Warmup problems, Fall 2010

(1) Example of a problem with more than one solution.
Carol says, "I'm thinking of two numbers from 1 to 4, inclusive, with a difference of 2.

What might the pair of numbers be? _____

(2) Carol picks two numbers from 1 to 4, inclusive (they might be the same), which have a quotient when the larger number is divided by the smaller that is a whole number (the quotient is 1 if they are the same!) She tells Alice the difference and Bob the quotient.
Alice says, "I don't know the numbers."
Bob says, "I know the numbers."

What might the pair of numbers be? _____

	1	2	3	4
1				
2				
3				
4				

(3) (2) Carol picks two numbers from 1 to 4, inclusive (they might be the same), and the quotient when the larger number is divided by the smaller is not necessarily a whole number (the quotient is 1 if they are the same!) She tells Alice the difference and Bob the quotient.
Alice says, "I don't know the numbers."
Bob says, "I don't know the numbers."
Now Alice says, "I know the numbers."

What might the pair of numbers be? _____

	1	2	3	4
1				
2				
3				
4				