

## Math 2001: Negation I (Katherine Stange, Spring 2018)

There are a collection of people in the room.

Name	Hat colour	Shoe size
Alexa	red	7
Josh	green	5
Eric	red	1
David	blue	3
Hannah	red	10
Yiting	yellow	17
Connor	blue	7

Task 1: Mark if each statement is true or false.

Task 2: Negate each statement.

Task 3 (sanity check): Mark if the negation is true or false.

1. There exists someone with a purple hat in the room.
2. There exists someone with a blue hat in the room.
3. Every shoe size in the room is greater than 0.
4. All hats in the room are either red or green.
5. If someone is wearing a red hat, then they have size 7 shoes.
6. If someone is wearing a green hat, then they have size 5 shoes.
7. If someone is wearing a purple hat, then they have size 7 shoes.
8. Everyone has a positive shoe size and a red hat.
9. Everyone has a positive shoe size and coloured hat.
10. Everyone has either a two-digit shoe size or a red hat.
11. Everyone has either a name beginning with a consonant or an odd shoe size.