

School Nova  
Challenge Problem  
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Blank Nametags

Six guests arrive early to a dinner party and wait in the lounge while the host sets up the dining room. After a few minutes, the host decides to play a game with the guests: each guest will get a nametag that they'll place on themselves so that everyone else can read it, but they are not allowed to look at their own nametag. The host will write the nametags and give them to each person, making sure that nobody looks at their own tag.

The host decides to leave some of the nametags blank, then tells the guests: “the only way for you to come into the dining room is, if you can correctly guess whether your nametag is blank, you must let me know, and then you must move into the dining room within one minute if you are correct. During the game, none of you may communicate with each other at all. Be silent and do not cheat!”

Trickster that the host is, all the nametags are blank. The host hands out the tags and says: “at least one of you has a blank nametag.” Can any of the guests make it into the dining room?

Offered prize: cookies/fruits. Submit any solutions or partial solutions to me during next week's meeting (23 October) in writing or verbally (either is fine) (and partial credit is given for partial solutions).