Does She Like Me?

It is Mathematically possible to determine, using plain theory of probabilities, wether a girl in the bus, at the bar or at the park likes you.

I will use the bar as an example.
Lets say you walk into a bar with 7 seats and two girls arrive to have a drink.
Let's start with the possible seat combinations:

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If we assign a number to each of the stands the above is transcribed as follows:

123	134	146	234	246	345	367
124	135	147	235	247	346	456
125	136	156	236	256	347	457
126	137	157	237	257	356	467
127	145	167	245	267	357	567

(ex. 135 means that the 1st, 3rd and 5th positions are taken, e.t.c.)

<u>Worst case scenario: no one sits next to you.</u>
There are 10 cases in which there is at least on empty stand:

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The above is transcribed as follows:

135, 136, 137, 146, 147, 157, 246, 247, 257, 357
(ex. 135 means that the 1st, 3rd and 5th positions are taken, e.t.c.)

The probability for this to happen is : $\frac{10}{35} = \frac{2}{7} = 0.2857$.

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This probability is high enough thus not giving us strong evidence to reject the hypothesis that he girls randomly chose their stands, meaning they have no interest in you.

Nice case scenario:

Both girls sit next to you.
There are 5 cases for that to happen:

■■■□□□□, □■■■□□□, □□■■■□□, □□□■■■□,□□□□■■■.

The probability for this is : $\frac{5}{35} = \frac{1}{7} = 0.1428$.

This is better. Girls might think you are a nice guy and maybe a start a conversation.

Best case scenario:

You are seated in the stand in the corner, far away from the door and the girls seat next to you.
This is only one case to happen:

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Probability: $\frac{1}{35} = 0.028$.

This is the best! The usual process to accept or decline the original hypothesis is to compare the result with approximately 0.05. If it is lower than that, we consider we have strong evidence to support the certainty of the experiment or hypothesis. In this case, the girls are into you!!

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