Question **1**

Tries remaining: 2

Marked out of 1.00

$I(q)$-plots (reciprocal space plots) are usually preferred to $I(r)$-plots (real space plots) in neutron scattering. Below you will find three different explanations to why that is. Which ones are correct?

Select one or more:

- a. The magnitude of q is a fundamental physical quantity independent on the instrumental setup (for example, the size of the detector and the wavelength of the neutrons). Therefore, $I(q)$-plots will be more general than $I(r)$-plots.
- b. Traditionally in scattering physics, we prefer notations relating to reciprocal space, as the majority of the data analysis and interpretation is done in this space. As q is a reciprocal space-variable, this is usually the way it is shown.
- c. q describes actual properties in the sample, which is the most relevant part of the experiment. While r might be interesting for instrumental design, it is irrelevant for the purposes of analyses.

Check

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Technical information

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