

1. What is your name?
2. Up to this point in our Math 5710 class we have mostly focused on sample spaces that are discrete rather than continuous. Furthermore when a teacher communicates a test score to a student ( e.g., Anna ), the score is typically considered to be a unique number (e.g., 71). However, when the teacher applies the idea of a standard error of measurement to that score (e.g., 3.4), should we not think of that score as an interval (e.g., instead of thinking that  $D_{OAnna} = 71$ ), we think of the score as a real number interval (e.g.,  $D_{OAnna} \in [ 67.4, 10.5 ]$  )? And if that's the case, have we moved from the world of a discrete sample space to a continuous sample space?

Please write a paragraph that addresses the two question in my note.

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Sample paragraph:

It makes sense to me that for cases in which experimenters are using tests that yield observed scores to estimate impossible-to-know true scores, that we should think of the score as  $D_o \pm SEM$  rather than an exact constant. During the last three weeks of our Math 5710, we'll study continuous density functions. Then the probability of a score equal to a specific constant number is 0. But the *probability* of a score lying in a real numbered interval may be between 0 and 1 inclusively ( i.e.,  $p( D_o ) \in [0, 1]$  ). This exercise is intended to set the stage for subsequent study. Thank you for tolerating this quiz with its focus on upcoming rather than previous mathematical content.

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3. Smile.

