

1) Remind yourself, and then explain in your own words, why we know the "scalar potential" (V) must exist for static electric fields, but why there is no such thing for general (time-dependent) electric fields. Similarly why must a "vector potential" (A) exist for magnetic fields? (even when they are NOT static!)

2) We don't have a regular homework this week, but I still have a task for you to do. Once again, I want you to invent a plausible exam question that you think might appear on the upcoming midterm. This went great last time, many of my exam questions were well anticipated by this group! Once again post it on our discussion forum for "Week 10". Better yet - post a question AND sketch out a solution. You are encouraged to also read and comment on **other** people's questions. If you think a question you see posted is seriously unlikely to appear on the test, tell them why you think that.