

1) Griffiths page 232 summarizes Maxwell's equations for Electrostatics and Magnetostatics. Of the four Maxwell equations on that page, which ones tell you something about the following claims/statements? :

a) There are no magnetic monopoles:

b) There must be a scalar potential:

c) There must be a vector potential:

d) Charges create electric fields:

e) Electric fields cause charges to accelerate:

f) Magnetic force is perpendicular to velocity of moving charges

Briefly, please explain your answers to the previous question.

Griffiths equation 7.4 says $V=IR$. Where did this formula come from?

A) It is derived from Eq 7.1, and is thus exact.

B) It is derived from Eq 7.1, and is thus exact... but only for certain types of substances

C) It is derived from Eq 7.1 with some simplifying assumptions, and is thus approximate.

D) It is really not derived at all, it is merely suggested by rough analogy to Eq 7.1, and is thus largely qualitative

E) It is not derived at all, it is in fact a definition!

F) Something else/none of these explains how I think about Equation 7.4 (explain below)

Briefly explain your answer to the previous question.

2) In Griffiths Example 7.3 (p 288 in my edition) he says

$$\vec{E} \cdot \hat{n} = 0, \text{ and hence } \frac{\partial V}{\partial n} = 0$$

Explain in your own words why the latter equation follows from the former. class time on? If you can't come up with any question, how about a comment - (did anything strike you as interesting?).