Source: KBPhysicsMasterIndex

1 | **Question 1**

Place a single charge in the working area. Using the E-field sensor (with "values" selected), and the measuring tape, confirm that the E-field calculated by the PhET simulation agrees with the equation we have used in class. (Note, the units for E-field that we learned in class were N/C. The PhET simulation may express the units differently. But the numerical values should be the same.)

I placed a sensor 1.013 metres away from the -1nC charge. The sensor showed that the the charge had a voltage of 8.78, and my calculations show that, per $\frac{9*1}{1.013^2}N/C$, the electric field should be about 8.8.

2 | **Question 2**

Place two positive charges in the working area. Where do you expect the E field to be zero? Does the simulation confirm that?

There is a point in between the two electric changes in which the electric field would be 0. And yes, the PHET simulation does show that.

3 | **Question 3**

Same as above, but use one positive and one negative charge.

None. There should not be given that the two charges are attracting each other.

4 | **Question 4**

The E field at a given point can be thought of as the force that a +1 C charge would feel if it were placed there. What does "electric potential" or "voltage" appear to represent? The units mentioned in #1 may be of interest as you consider this question.

Volts is a unit for Jouls / meter