<u>OSU Academic Integrity Statement</u>

During this quiz you are not to receive information, nor communicate with anyone, about the form, content, length, or difficulty of this quiz. Additionally, you are not to use any unauthorized resources while taking this quiz.

The allowed resources are: any notes you have collected during this course (handwritten, printed, or saved locally on your computer), blank sheets of paper or a digital tablet, writing utensil, a ruler, a protractor, and a non-communicating calculator. **Accessing the internet** while taking the quiz for any reason other than downloading, viewing, or turning in the quiz **is strictly prohibited**.

Receiving information or discussing details about this quiz between the time of its release and a time 48 hours later is stickily prohibited and is in violation of Oregon State University's Code of Student Conduct.

https://studentlife.oregonstate.edu/studentconduct/academicmisconduct

Any incidence of academic misconduct will be dealt with in accordance with Oregon State University's policies.

By submitting your work to Gradescope, you are stating that you have abided and will abide by the rules stated here and the academic integrity statement found in the syllabus on boxsand.org.

Physics 203

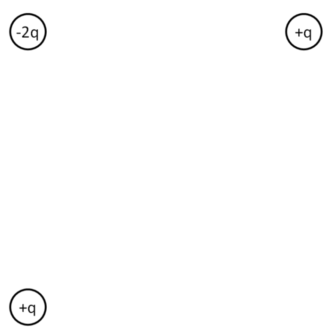
Weekly 6 quiz | Corvallis Campus

5/5/2021

Collaboration is not allowed. You will have 25 minutes to download this PDF, solve, take pictures, AND upload this exam to Gradescope. You will have an additional 5 minute buffer in case technological issues arise.

Three charges are fixed on three of the corners of a square. A charge of –2q is placed in the upper left, charges of +q are placed on the upper right and lower left corners. **There are questions on both pages of this quiz**, all pertaining to this arrangement of charges. You are encouraged to use algebraic logic to solve these problems, however you are not expected to calculate exact answers.

(a) (4 pts) At how many locations near the charges would you find an electric field strength of zero N/C? On the diagram below indicate the approximate location(s) of the point(s). Explain how you determined the location(s) using written words, diagrams, algebraic equations, etc.



(b) (6 points) At each of the locations A, B, and C, sketch the electric field vector. Then rank the magnitude of the electric field at the following locations A, B, and C. Explain your ranking using written words, diagrams, algebraic reasoning, etc. Most of the points will be dedicated to your explanation! Point C is in the middle of the square. Point B is half way between the top two charges. Point A is equidistant, directly opposite point C on a diagonal line through the upper left charge.