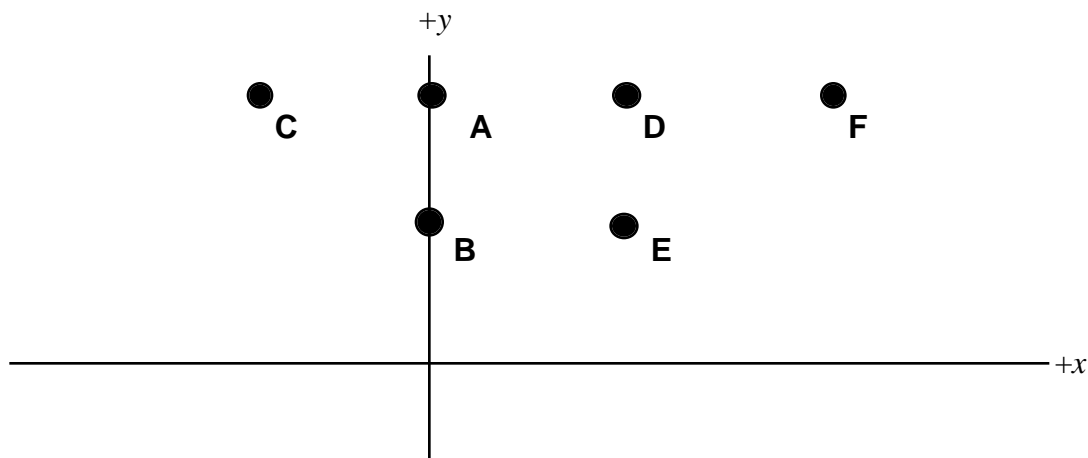


## Uniform Electric Field—Electric Force on Charge at Rest I <sup>139</sup>

We have a large region of space that has a uniform electric field in the  $+x$  direction ( $\Rightarrow$ ). At the point  $(0,0)$  m, the electric field is  $30 \hat{i}$  N/C and the electric potential is 100 volts.

Rank from greatest to least the strength (magnitude) of the electric force on a  $+5$  C charge when it is placed at rest at each of the following points.

**A:**  $(0, 6)$  m    **B:**  $(0, 3)$  m    **C:**  $(-3, 6)$  m    **D:**  $(3, 6)$  m    **E:**  $(3, 3)$  m    **F:**  $(6, 6)$  m



Greatest   1 \_\_\_\_\_   2 \_\_\_\_\_   3 \_\_\_\_\_   4 \_\_\_\_\_   5 \_\_\_\_\_   6 \_\_\_\_\_   Least

Or, the 5 C charge will experience the same strength electric force at all of these points. \_\_\_\_\_

Or, the 5 C charge will not experience a force at any of these points. \_\_\_\_\_

Please carefully explain your reasoning.

How sure were you of your ranking? (circle one)

Basically Guessed

Sure

Very Sure

1      2      3      4      5      6      7      8      9      10

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<sup>139</sup> C. Hieggelke