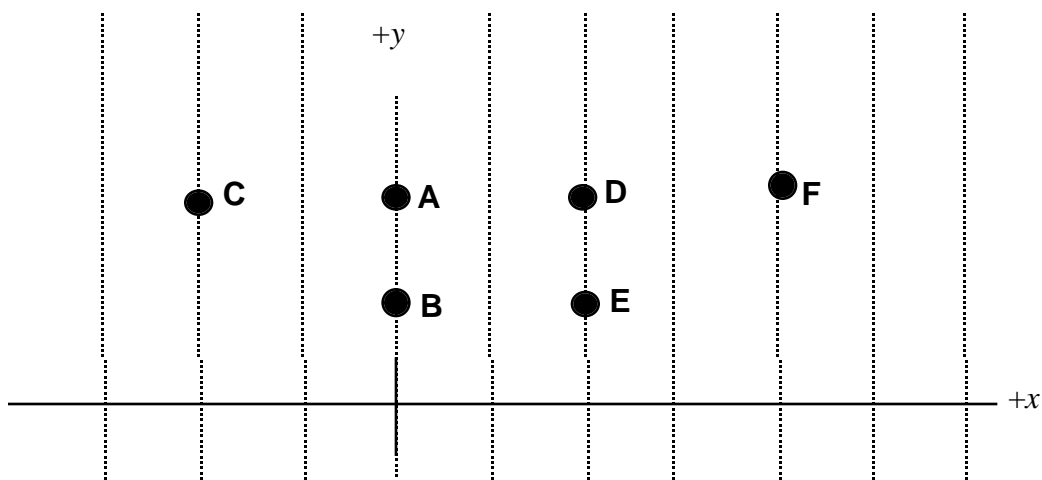


Uniform Electric Field/Potential Lines—Electric Force on Charge at Rest III ¹⁴¹

We have a large region of space that has a uniform electric field in the $+x$ direction (\Rightarrow). In the diagram below we show the equipotential lines for this field. 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

¹⁴¹ C. Hieggelke