Problem statement Electrons repel each other with a force which is inversely proportional to the square of the distance between them; call the proportionality constant k in the units to be used. Suppose one electron is fixed at $x = 0$ on the $x-$axis.

a) Find the work done in moving a second electron along the $x-$axis from the point $x = 10$ to the point $x = 1$.

b) Find the work done in moving the second electron along the $x-$axis from the point $x = M$ to the point $x = 1$.

c) What happens to your answer in b) (which should depend on M) as $M \to +\infty$?