Two point charges (+10.0 μC and -10.0 μC) are located 0.75 m apart.

a) Find the electric potential energy when a point charge of -4.2 μC is placed at point A.

\[ U_c = \frac{kq_1q_2}{r_{12}} \]

b) Find the electric potential energy when a point charge of -4.2 nC is placed at point B.

c) What is the change in electric potential energy when the -4.2 nC point charge is moved from A to B? Does it increase or decrease? Why?

d) How much work is done by the electric force in moving the charge from A to B? Is it positive or negative? Explain.
e) What is the electric potential at point A?

\[ V = \frac{kQ}{r} \]

f) What is the electric potential at point B?

g) What is the change in electric potential if you were to move a test charge from A to B? Does it increase or decrease? Why?