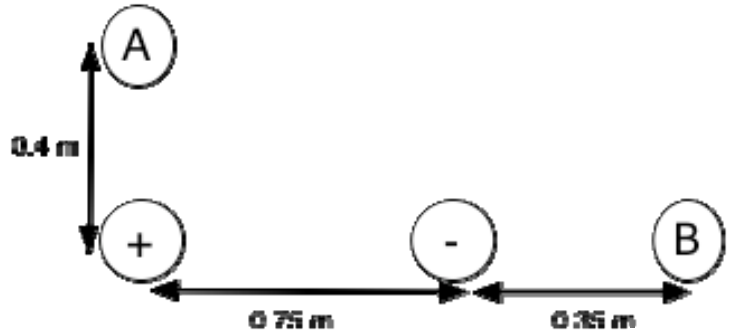


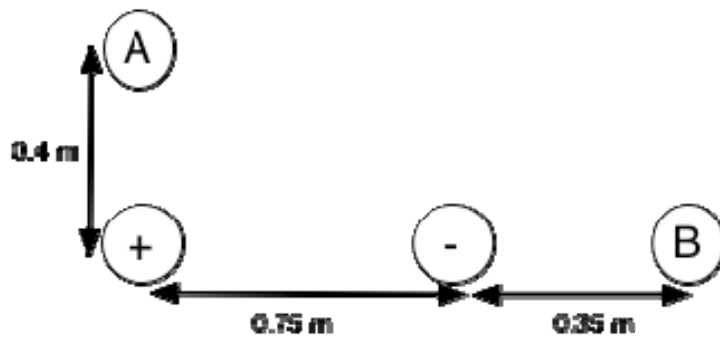
Two point charges ( $+10.0 \mu\text{C}$  and  $-10.0 \mu\text{C}$ ) are located  $0.75 \text{ m}$  apart.

- a) Find the electric potential energy when a point charge of  $-4.2 \mu\text{C}$  is placed at point A.

$$U_E = \frac{kq_1q_2}{r_{12}}$$



- b) Find the electric potential energy when a point charge of  $-4.2 \text{ nC}$  is placed at point B.
- c) What is the change in electric potential energy when the  $-4.2 \text{ nC}$  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?