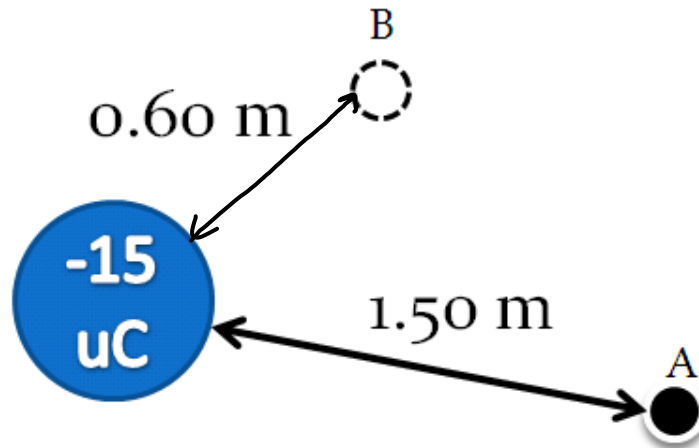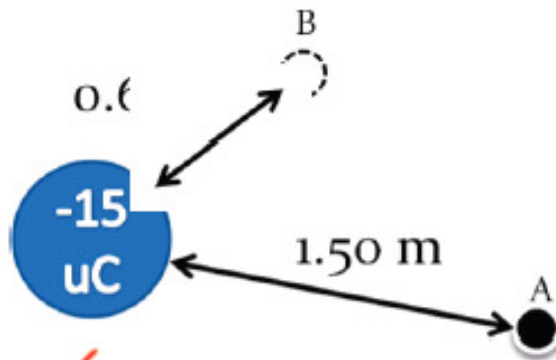What is the potential difference going from point A to point B? How much work is needed to move a proton from point A to point B?

B

0.60 m

-15 uC

1.50 m

A

Right

B

0.6

-15 uC

1.50 m

A

$$V_{AB} = V_B - V_A$$

$$= \frac{Kq}{r_B} - \frac{Kq}{r_A} = -225000 - (-90\,000)$$

$$= -135\,000\,V$$

$$\Delta E_p = \Delta V_q = (-135000)(1.6 \times 10^{-19})$$

$$= -2.16 \times 10^{-14}\,J$$