1.) What is the electric potential energy of an electron located 7.6x10^{-11} m from a proton in a hydrogen atom?

2.) What is the electric potential at the point P shown below?

![Diagram showing two charged particles and distances]
1) \[ E_p = \frac{k q_1 q_2}{r} = \frac{(9 \times 10^9)(1.6 \times 10^{-19})(-1.6 \times 10^{-19})}{(7.6 \times 10^{-11})} \]
\[ = -3.0 \times 10^{-18} \text{ J} \]

2) 

Potential is a scalar so no vector addition!

\[ V_1 = \frac{k q_1}{r_1} = \frac{(9 \times 10^9)(15 \times 10^{-6})}{0.90} = 150000 \text{ V} \]

\[ V_2 = \frac{k q_2}{r_2} = \frac{(9 \times 10^9)(-9 \times 10^{-6})}{0.75} = -108000 \text{ V} \]

\[ V_T = V_1 + V_2 = 150000 + (-108000) \]
\[ = 42000 \text{ V} \]