

Solutions

Each answer shows the steps, then the **result**.

2.1

- $U = 8.99 \times 10^9 \times \frac{(2.0 \times 10^{-6})(3.0 \times 10^{-6})}{0.50} = 0.11 \text{ J}$

2.2

- negative

2.3

- 5.0 J (energy is conserved)

3.1 B

3.2 B

3.3

(a)

- $U = 8.99 \times 10^9 \times \frac{(4.0 \times 10^{-6})^2}{0.20} = 0.72 \text{ J}$

(b)

- it is converted into kinetic energy as the like charges fly apart