## Question.

Points A and B each have an electric potential of +12 V. How much work would be required to take 3 C of positive charge from A to B?

a. 0 J

b. 3 J

c. 9 J

d. 36 J

Given:

$$\Delta U = 12 \, V$$

$$q = 3 \, C$$

Find:

$$W = ?$$

## Solution.

By definition the work performed for moving the charge by the electric field is equal to:

$$W = q \cdot \Delta U$$

Calculate:

$$W = 3 \cdot 12 = 36 \, J$$

So, it's answer d. 36 J.

## Answer.

$$d. \, 36 \, J$$