**question**                                                                                    2 views

## Daily Challenge 23.3

**(Due: Sunday 3/3 at 12:00 noon Eastern)**

In the last meeting, we proved the *work-energy theorem,*

$$\int_{x_a}^{x_b} F(x)\, dx = \frac{1}{2}mv_b^2 - \frac{1}{2}mv_a^2.$$

As you know, the electrostatic force between charges $q_1$ and $q_2$ is given by

$$F_e = \frac{kq_1 q_2}{r^2}.$$

Assuming that the first charge $q_1$ is held fixed at the origin $(r = 0)$, find the work needed to move a charge $q_2$ from an initial position $r_a$ to a final position $r_b$. Explain the relationship between your result and the electric potential.

daily_challenge

Updated 1 month ago by Christian Ferko

**the students' answer,** *where students collectively construct a single answer*

We're just green bois doing what green bois do

Updated 1 month ago by Logan Pachulski

**the instructors' answer,** *where instructors collectively construct a single answer*

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