

USEFUL RESOURCES

The updates, homework assignments, and useful links for APC can be found on SchoolNova's web page:
https://schoolnova.org/classinfo?class_id=2252&sem_id=74

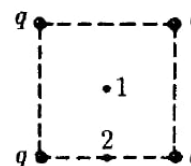
The practical information about the club and contacts can be found on the same web page.

TODAY'S MEETING

We solved most of the assignment on Gauss's law. The next topic is electrostatic potential.

NEW HOMEWORK

- Charges of 10^{-9} C each are located in the corners of a square with a side of 10 cm. Find the electrostatic potential difference between the center of the square (1) and the middle of one of the sides of the square (2).



- All the following questions are about electrostatics, meaning we consider only static electric charge configurations, without any electric current flowing. Why is the electric field inside a conductor equal to zero? Why the electric field right outside a conductor is perpendicular to its surface? Are these two conditions sufficient to prove that the electrostatic potential is the same at every point of a conductor? Find the surface density of charge on the surface of a conductor if the electric field outside the conductor at that location is E .
- Three concentric spheres made from conducting material have radii r , $2r$, $3r$ and charges q , $2q$ and $-3q$, respectively. Find the electrostatic potential of each sphere.
- There are two concentric hollow metal spheres of radii R_1 and R_2 ($R_2 > R_1$). The outer sphere has charge q while the inner sphere is grounded. Find the electric field and electrostatic potential at every point as functions of the distance from the common center of the spheres.
- *5. A point charge Q is located at distance h from an infinite metal plane. With what force does the plane act on the charge? What is the density of the surface charge induced on the plane?

FOR THE NEXT MEETING

IMPORTANT: The next club's meeting is at 2:40pm, in person, on Sunday, **March 22**.