

Reading Assignments

See the handouts for each lesson for the reading assignment

Jan. 25 class - Lesson 2.2

Assignment due at start of class (2 points)

1. On the inside of a sphere are 3 point charges with charges of 2, 6 and $-10 \mu\text{C}$. Just outside the sphere are 2 point charges with charges of 4 and $-2 \mu\text{C}$. What is the value of
 - o $\mathbf{E} \cdot d\mathbf{s}$ integrated over the surface of the sphere?
2. The electric field in a region of space is given by $\mathbf{E} = c r^2 \cos \theta \mathbf{a}_r + c r^2 \cos \theta \mathbf{a}_\theta$ where c is a constant. What is the charge density ?

Jan. 27 class - Lesson 2.3

Assignment due at start of class (2 points)

1. The electric potential in a region of space (spherical coordinates) is given by: $V = r^2 \cos \theta$. What is the electric field?
2. What property of electrostatic electric fields makes it possible to describe them using an electric potential?

Jan. 28 & 29 classes

Open shop to work on Homework 2. Due at 5 PM on Jan. 29.