

Regular Physics Electrostatics Chapter 16 Homework FUN!!!



Homework 1: The Nature of Charge & Methods of Charging

☆ You must view the podcast on the review of atomic structure and the nature of charged objects. This is essential information that will not be reviewed during class time.

☆ Reading: pp. 548, 551-553

☆ Problems:

☆ p. 553 FA: 1, 4, 5

☆ p. 551 CC: all

☆ p. 571 R: 1, 2, 4-7

Homework 2: Coulomb's Law

☆ Reading: pp. 554; 560-561

☆ Problems: *Be sure to convert to SI units where needed. $1\mu\text{C} = 1\text{E}-6\text{C}$

☆ p. 556 P: 1, 2a, 3

☆ p. 556 CC: all

☆ p. 561 FA: 1a, 1b, 3*, 5 (*For #3, find the F_e of each charge on the charge at the origin and do vector addition.)

☆ p. 571 R: 9-15 (Look up the charge of protons and electrons if you don't know them. In #15, each new nucleus has 46 protons.)

Homework 3: Electric Fields

☆ Reading: pp. 562-564, 566-567

☆ Problems:

☆ p. 565 P: 2

☆ p. 569 FA: 1*, 2, 3 (* For #1, only draw the field, don't do any calculations.)

☆ p. 572 R: 22, 25, 26, 28, 30, 31

Homework 4: Electric Potential Energy, Electric Potential, and Potential Difference

☆ Reading: pp. 580-581

☆ Problems:

☆ p. 581: In Figure 1.2, the PEE changes. Explain how it changes (increase/decrease) and explain why.

☆ p. 587 FA: 2, 3, 5-7, 10-12

☆ p. 616 R: 1-4, 7, 8

☆ Now do these two problems:

☆ A $2.4\ \mu\text{C}$ charge sits 1.2 cm from a point. What's the voltage at that point?

☆ Two charges lie on a number line. The first charge is $-7.0\ \mu\text{C}$, and it lies at position 2.0 cm. The second charge is $7.0\ \mu\text{C}$, and it lies at position 4.0 cm. What's the voltage at the origin?

☆ Now go back to the review questions and do question 9.

