



browntr19@students.ecu.edu

[\(sign out\)](#)[Home](#)[My Assignments](#)[Grades](#)[Communication](#)[Calendar](#)[My eBooks](#)**4**
days
remaining

Your free
WebAssign
trial
expires
soon!

[Purchase Access Now](#)[← PHYS 1260, section 001, Fall 2020](#)

INSTRUCTOR

Joel DeWitt

East Carolina University

Chapter 18 (Homework)

Current Score

QUESTION

1

2

3

4

5

6

POINTS

1/1

1/3

1/1

0/1

1/1

2/2



TOTAL SCORE

6/9

66.7%

Due Date

TUE, OCT 13, 2020

11:59 PM EDT



Request Extension

Description**Assignment Submission & Scoring****Assignment Submission**

For this assignment, you submit answers by question parts. The number of submissions remaining for each question part only changes if you submit or change the answer.

Assignment Scoring

Your last submission is used for your score.

1. [1/1 Points]

DETAILS

PREVIOUS ANSWERS

COLFUNPHYS1 18.P.006.

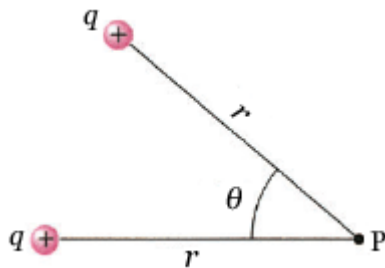
MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Two identical charges $q = (1/9.0) \times 10^{-9}$ C are shown in the figure below. Find the potential at P.
(Take $r = 2.63$ m and $\theta = 37^\circ$.)

0.7596 V



2. [1/3 Points]

DETAILS

PREVIOUS ANSWERS

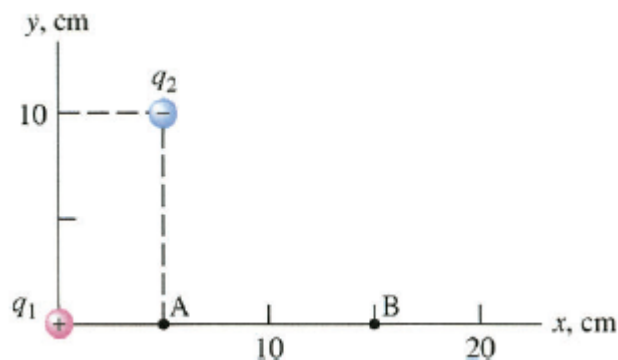
COLFUNPHYS1 18.P.008.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

The figure below shows two point charges $q_1 = +4.8 \times 10^{-9}$ C and $q_2 = -6.3 \times 10^{-9}$ C.



(a) Find the potential at A.

2.97e3 V ✓

(b) Find the potential at B.

-2.79e3 V ✗

(c) Find the potential difference $V_A - V_B$.

5.76e3 V ✗

3. [1/1 Points]

DETAILS

PREVIOUS ANSWERS

COLFUNPHYS1 18.P.010.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

In 1910 Rutherford performed a classic experiment in which he directed a beam of alpha particles at a thin gold foil. He unexpectedly observed a few of the particles scattered almost directly backward. This result was not consistent with then current models of atomic structure and led Rutherford to propose the existence of a very dense concentration of positive charge at the center of an atom—the atomic nucleus. The alpha particle has a charge of $+2e$ and the gold nucleus a charge of $+79e$. Suppose that an alpha particle is initially a great distance from the gold, has a kinetic energy of 4.90 MeV (4.90×10^6 eV), and is headed directly at a gold nucleus. How close will the particle come to the center of the nucleus? Treat the nucleus and the alpha particle as point charges.

4.64e-14 m ✓

4. [0/1 Points]

DETAILS

PREVIOUS ANSWERS

COLFUNPHYS1 18.P.012.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

The potential equals 7.84 V at the midpoint between two point charges that are 1.05 m apart. One of the charges is $+1.01 \times 10^{-9}$ C. Find the value of the other charge.

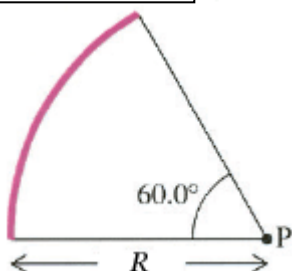
charges is 1.01×10^{-8} C. Find the value of the other charge.



5. [1/1 Points]

[DETAILS](#)[PREVIOUS ANSWERS](#)**COLFUNPHYS1 18.P.013.**[MY NOTES](#)[ASK YOUR TEACHER](#)[PRACTICE ANOTHER](#)

The circular arc shown in the figure below has a uniform charge per unit length of 5.99×10^{-8} C/m. Find the potential at P, the center of the circle. (Take $R = 2.15$ m.)



6. [2/2 Points]

[DETAILS](#)[PREVIOUS ANSWERS](#)**COLFUNPHYS1 18.P.019.**[MY NOTES](#)[ASK YOUR TEACHER](#)[PRACTICE ANOTHER](#)

A capacitor has parallel plates that have an area of 1.11 cm^2 and are 1.02 mm apart. There is a vacuum between the plates, and the electric field magnitude is 1.10×10^6 N/C.

(a) Find the potential across the plates.



(b) Find the charge.

[Submit Assignment](#)[Save Assignment Progress](#)

Copyright © 1998 - 2020 Cengage Learning, Inc. All Rights Reserved

[TERMS OF USE](#) [PRIVACY](#)