



yathartha.regmi@ttu.edu
([Sign out](#))

[Home](#)[My Assignments](#)[Grades](#)[Communication](#)[Calendar](#)[My eBooks](#)[← PHYS 2401, section 201, Summer 2 2022](#)

Electric Potential (Homework)

 INSTRUCTOR

Keith West

Texas Tech University

Current Score

QUESTION

1

2

3

4

5

6

7

POINTS

-1

-2

-2

-1

-9

-1

-12

TOTAL SCORE

-128

0.0%

Due Date

THU, AUG 4, 2022

11:58 PM CDT

[Request Extension](#)

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.

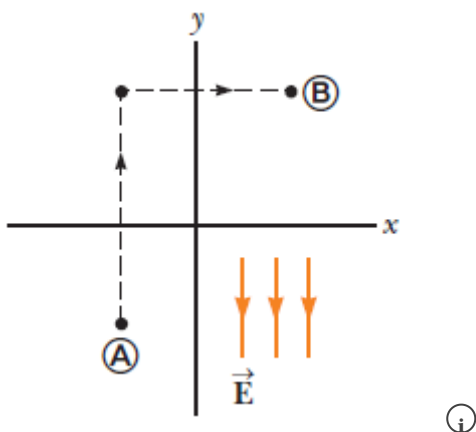
Assignment Scoring

Your last submission is used for your score.

1. [-/1 Points]

DETAILS**SERPSE10 24.1.OP.004.****MY NOTES****ASK YOUR TEACHER****PRACTICE ANOTHER**

A uniform electric field of magnitude **295** V/m is directed in the negative y direction as shown in the figure below. The coordinates of point **A** are **(-0.750, -0.550)** m, and those of point **B** are **(0.900, 0.650)** m. Calculate the electric potential difference $V_B - V_A$ using the dashed-line path.

 V**Need Help?****Read It****Watch It**

2. [-/2 Points]

DETAILS

SERPSE10 24.1.OP.005.MI.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

An electron moving parallel to the x axis has an initial speed of 4.80×10^6 m/s at the origin. Its speed is reduced to 1.94×10^5 m/s at the point $x = 2.00$ cm.

(a) Calculate the electric potential difference between the origin and that point.

Volts

(b) Which point is at the higher potential?

- ☐ both have the same potential
- ☐ the origin
- ☐ the point $x = 2.00$ cm

Need Help?

Read It

Master It

3. [-/2 Points]

DETAILS

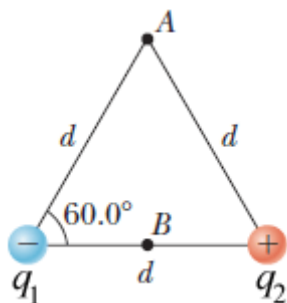
SERPSE10 24.3.OP.009.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Two charges, $q_1 = -14.5$ nC and $q_2 = 26.5$ nC, are separated by a distance $d = 2.50$ cm as shown in the figure.



Determine the following.

- (a) the electric potential (in kV) at point A

 kV

- (b) the electric potential (in kV) at point B , which is halfway between the charges

 kV

Need Help?

Read It

4. [-/1 Points]

DETAILS

SERPSE10 24.4.P.022.

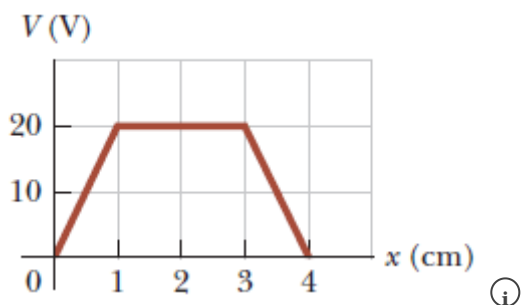
MY NOTES

ASK YOUR TEACHER

The figure below represents a graph of the electric potential in a region of space versus position x , where the electric field is parallel to the x axis. Draw a graph of the x component of the electric field versus x in this region. (Submit a file with a maximum size of 1 MB.)

 No file chosen

This answer has not been graded yet.



Need Help?

5. [-/9 Points]

DETAILS

SERPSE10 24.4.OP.020.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

The potential in a region between $x = 0$ and $x = 6.00$ m is $V = a + bx$, where $a = 12.6$ V and $b = -3.90$ V/m.

(a) Determine the potential at $x = 0$.

 V

Determine the potential at $x = 3.00$ m.

 V

Determine the potential at $x = 6.00$ m.

 V

(b) Determine the magnitude and direction of the electric field at $x = 0$.

magnitude V/m

direction

Determine the magnitude and direction of the electric field at $x = 3.00$ m.

magnitude V/m

direction

Determine the magnitude and direction of the electric field at $x = 6.00$ m.

magnitude V/m

direction

Need Help?

Read It

Watch It

6. [-/1 Points]

DETAILS

SERPSE10 24.5.OP.023.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

A charge Q is distributed uniformly around the perimeter of a ring of radius R . Determine the electric potential difference between the point at the center of the ring and a point on its axis at a distance $3R$ from the center. (Use any variable or symbol stated above along with the following as necessary: k_e .)

$$\Delta V = V(0) - V(3R) =$$

Need Help?

Read It

7. [-/12 Points]

DETAILS

SERPSE10 24.6.P.035.MI.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

A spherical conductor has a radius of 14.0 cm and a charge of $38.0 \mu\text{C}$. Calculate the electric field and the electric potential at the following distances from the center.

(a) $r = 8.0 \text{ cm}$

	magnitude		direction
electric field	<input type="text"/>	MN/C	---Select--- ▼
electric potential	<input type="text"/>	MV	---Select--- ▼

(b) $r = 40.0 \text{ cm}$

	magnitude		direction
electric field	<input type="text"/>	MN/C	---Select--- ▼
electric potential	<input type="text"/>	MV	---Select--- ▼

(c) $r = 14.0 \text{ cm}$

	magnitude		direction
electric field	<input type="text"/>	MN/C	---Select--- ▼
electric potential	<input type="text"/>	MV	---Select--- ▼

Need Help?

Read It

Master It

Submit Assignment

Save Assignment Progress

[Home](#)[My Assignments](#)[Request Extension](#)

Copyright © 1998 - 2022 Cengage Learning, Inc. All Rights Reserved

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