

Electricity: Electric Potential

⚠ This is a preview of the draft version of the quiz

Started: Nov 4 at 10:58am

Quiz Instructions

Question 1

1 pts

Two identical small, negative charges are placed near a large negative charge. One is 0.5 m away and the other is 1 m away. Which of the following statements is true?

- The electric force on the charges are equal which means that their electric potential is equal.
- The electric field felt by the charge at 1 m is greater than the field at 0.5 m.
- The charge at 1 m has more potential than the charge at 0.5 m.
- The charge at 0.5 m has more potential than the charge at 1 m.

Question 2

1 pts

In an electric field, there are regions where charges can move around without work being performed on them. This happens where the electric potential is the same for those charges. These regions are know as

- electric field lines or surfaces
- parallel plates
- field line variations
- equipotential lines or surfaces correct

Question 3**1 pts**

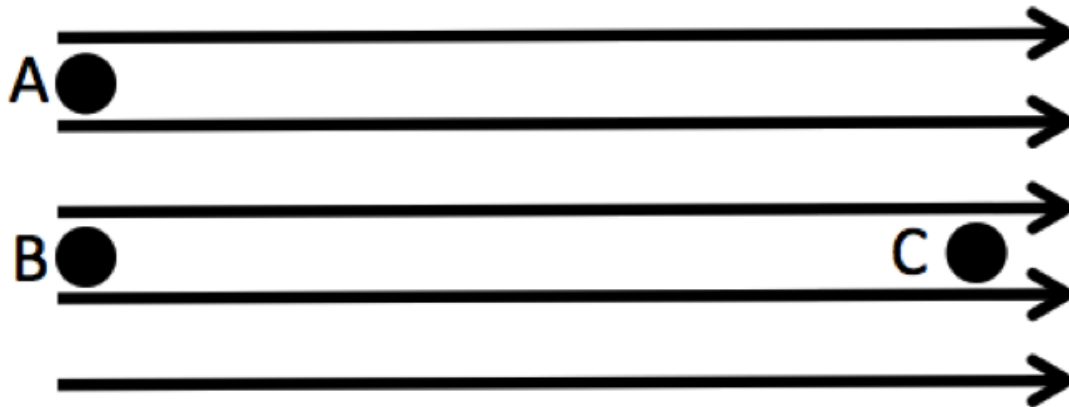
When work is done on a positive test charge, the _____ both increase.

- electric force and electric field strength
- electric potential energy and electric field strength
- electric potential and electric potential energy
- electric field strength and electric potential

Question 4**1 pts**

Equipotential lines exist around an electric charge. These are lines where the potential difference between the source of the potential and any point along the line is the same. Which of the following analogies best represents equipotential lines?

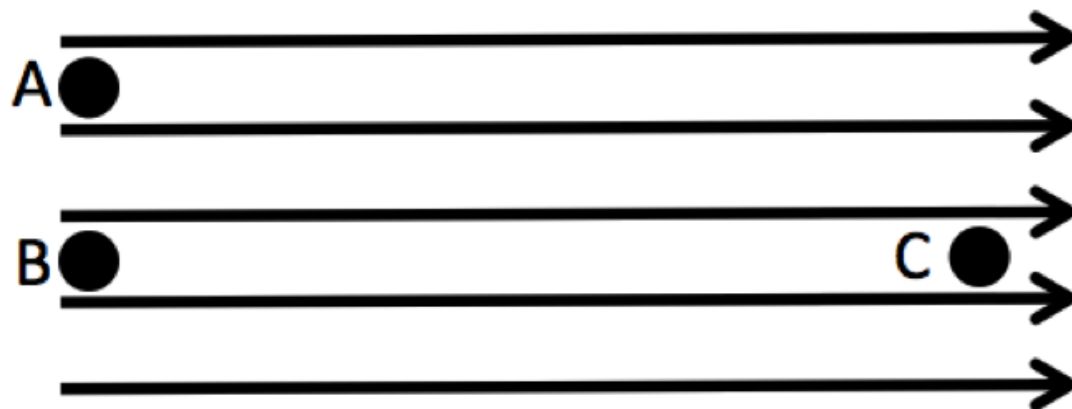
- They are like electric field lines.
- They are like magnetic field lines.
- They are like a topographical map for charges.
- They are like a density column with layers of charge.

Question 5**1 pts**

A positive charge is placed at point B inside an electric field represented by the arrows in the diagram. To move the charge from point B to point C, _____ is done on the charge and the electric potential energy is greatest at point _____.

- positive external work, B
- negative external work, B
- negative external work, C

- positive external work, C

Question 6**1 pts**

Points A and B have the same electric potential. How much work is required to move a charge from point A to Point B?

- There is not enough information to answer the question
- 0 J
- 100 J for every unit of charge
- 1000 J for every unit of charge

Question 7**1 pts**

Two electrons are separated by 1.0m. What is the electric potential halfway between them?

- 1.44nV
- 2.88nV
- 5.76nV
- 0V

Question 8

1 pts

How much electric potential energy is stored between two $+3\mu\text{C}$ charges that are 1.5m apart?

- 0.216 J
- 0.432 J
- 0.108 J
- 0.054 J

Question 9

1 pts

The electron volt is a measure of

- force.
- charge.
- energy
- electric field strength.

Question 10**1 pts**

A 1.00C charge with a mass of 0.0150kg is released from rest at a location with an electric potential of 18.0V. What is the speed of the charge when it reaches a location with an electric potential of 2.00V?

- 5.65 m/s
- 4500 m/s
- 46.2 m/s
- 2133 m/s

Not saved

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