

Pre-Test for Electrical Potential

- 1.) In Figure 1, the electrical potential difference from A to B along the leftmost path is:
- equal but the negative of the electric potential difference along the rightmost path.
 - equal to the electric potential difference along the rightmost path.
 - unknown in comparison to the electric potential difference along the leftmost path.
 - smaller than the electric potential difference along the rightmost path.



Figure 1

- 2.) A positive charge in a uniform electric field accelerates, gaining 5 J of kinetic energy. How does the charge's potential energy change?
- It loses an unknown amount.
 - It doesn't change.
 - It gains 5 J
 - It loses 5 J.
- 3.) A and B are both points on an equipotential surface. What is the potential difference between point A and B?
- To solve this, the electric potential of the equipotential surface must be known.
 - It is zero.
 - To solve this, the electric potential at both A and B must be known.
 - To solve this, the path from A to B must be known.
- 4.) A charge travels through a series of equipotential surfaces. The net potential difference from the first surface, A, to the second surface, B, is 5 V. In what direction is the electric field?
- Perpendicular to the path from A to B.
 - Impossible to know with the information given.
 - From A to B.
 - From B to A.
- 5.) As one moves away from a positive point charge, the electric potential:
- increases.
 - decreases.
 - remains the same.
 - changes in ways we cannot determine with the given information.

- 6.) Three charges form an equilateral triangle; q_1 has a charge of -1 and q_2 and q_3 each have a charge of $+2$. What is the potential energy of this system?
- a. unknown; not enough information.
 - b. 1 J.
 - c. 3 J.
 - d. zero

Solutions: b, d, b, d, b, d