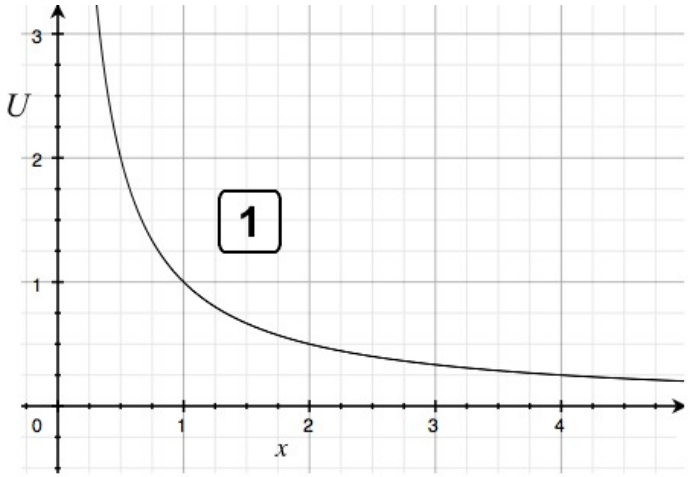
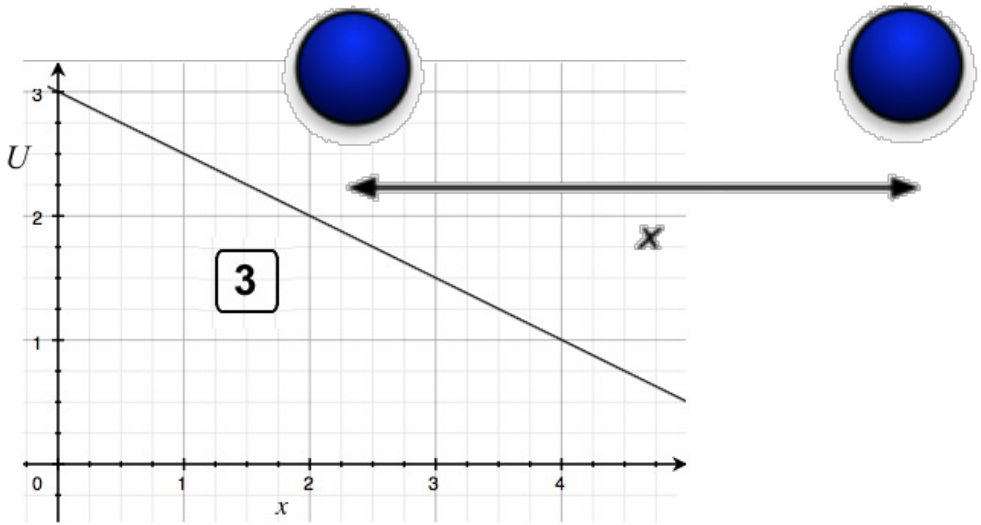
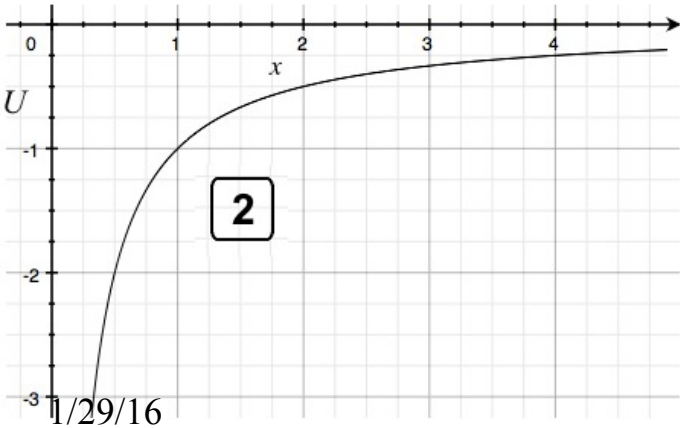
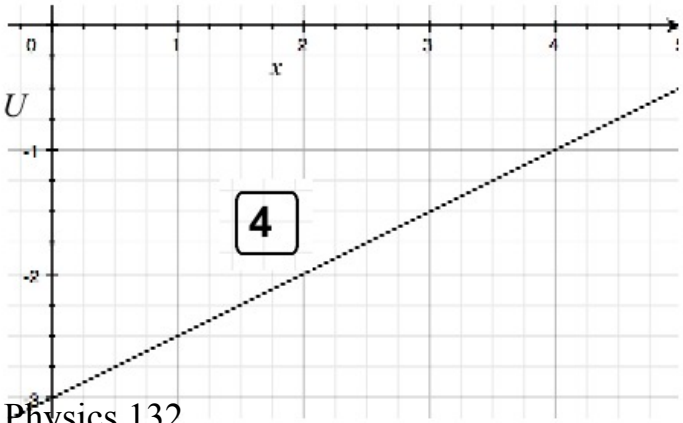
What does the electric potential energy between two identical charges look like?



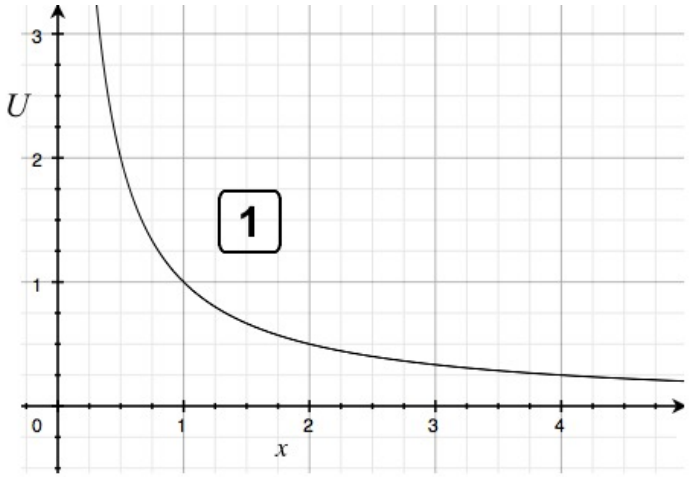


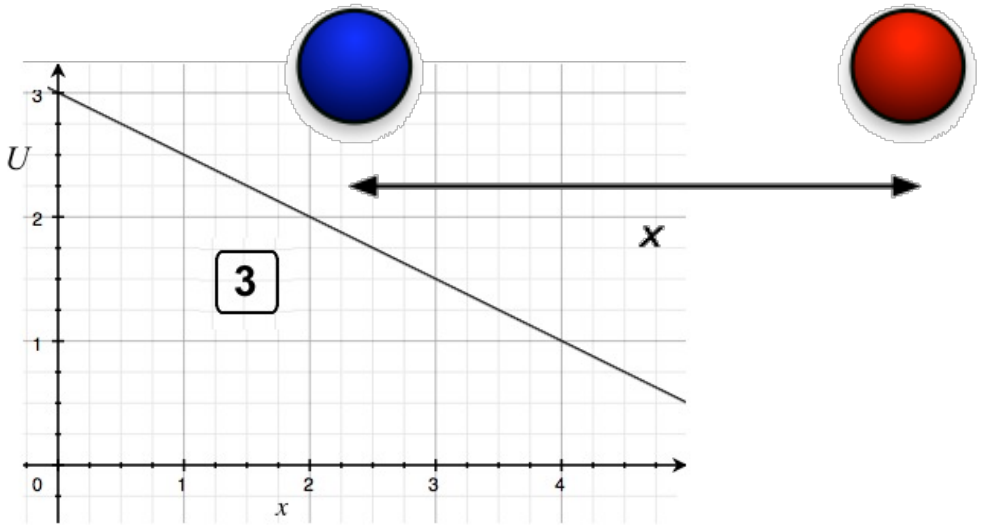


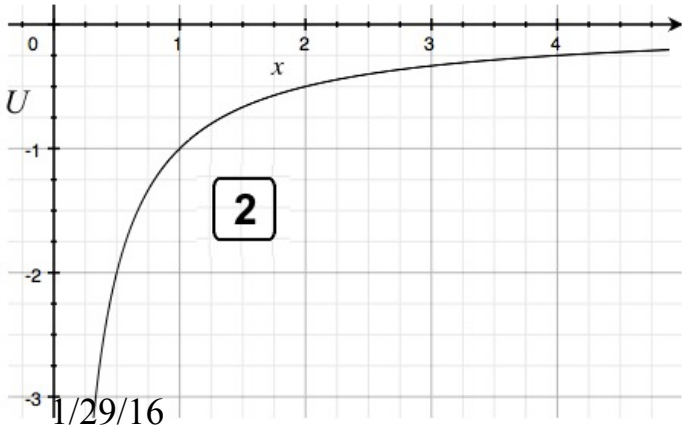


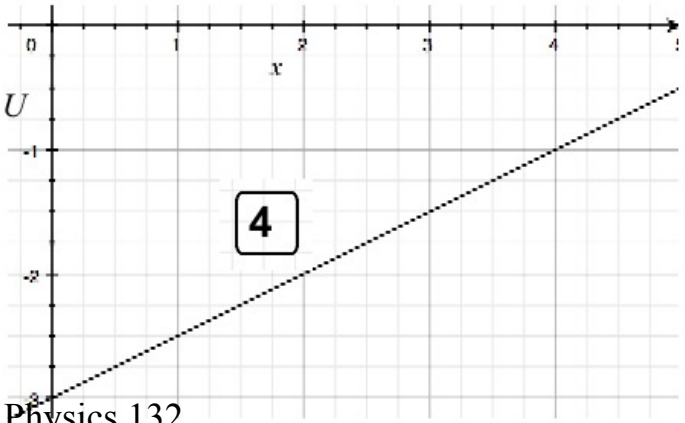
5. None of the above

What does the electric potential energy between two opposite charges look like?









5. None of the above

When a positive (test) charge is released from rest near a fixed positive (source) charge what happens to the electric potential energy of the test charge?

1. It will increase because the test charge will move towards the source charge.
2. It will decrease because the test charge will move away from the source charge.
3. It will increase because the test charge will move away from the source charge.
4. It will decrease because the test charge will move towards the source charge.
5. It will remain constant because the test charge remains at rest.
6. There is not enough information to tell.

Do it with the graph!

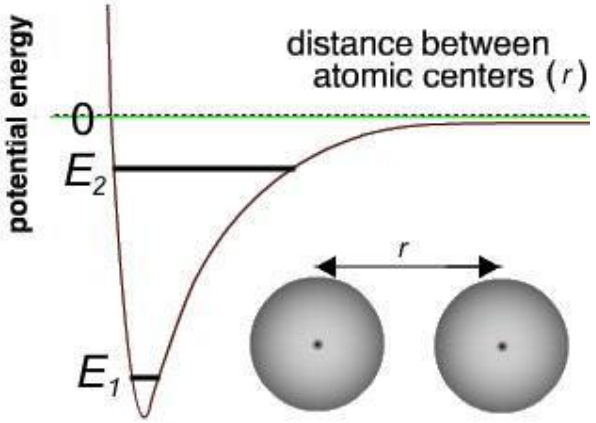
When a negative (test) charge is released from rest near a fixed positive (source) charge what happens to the electric potential energy of the test charge?

1. It will increase because the test charge will move towards the source charge.
2. It will decrease because the test charge will move away from the source charge.
3. It will increase because the test charge will move away from the source charge.
4. It will decrease because the test charge will move towards the source charge.
5. It will remain constant because the test charge remains at rest.
6. There is not enough information to tell.

Do it with the graph!

Multiple response!

Two atoms interact with a potential energy between them that varies as a function of their separation as shown in the graph at the right. We take the zero of energy to be when they are very far apart and at rest. They have a total energy E_1 as shown on the figure. Which of the following statements are true about them?



A. They are in a bound state.

B. The total energy of the molecule is positive.

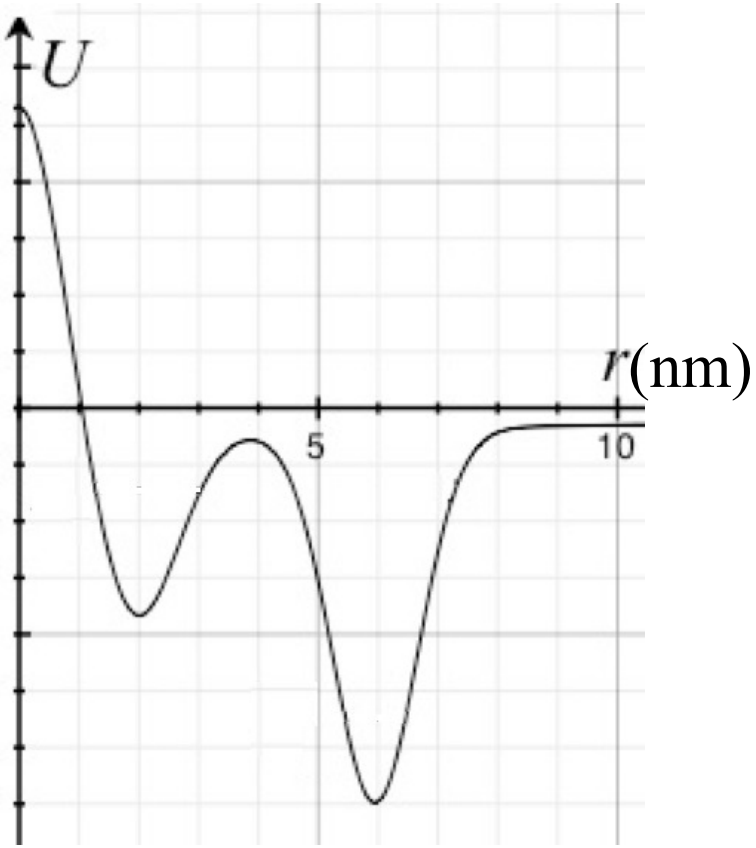
C. The total energy of the molecule is negative.

D. The total energy of the molecule is zero.

The figure below shows the interaction potential between two molecules (along a particular orientation of the two molecules). The units are in nm (r) and eV (*U*).

When the molecules are separated by 2 nm the force between them is

1. Attractive
2. Repulsive
3. Zero
4. Cannot be determined from the figure.



The figure below shows the interaction potential between two molecules (along a particular orientation of the two molecules). The units are in nm (r) and eV (*U*).

When the molecules are separated by 0.5 nm the force between them is

1. Attractive
2. Repulsive
3. Zero
4. Cannot be determined from the figure.