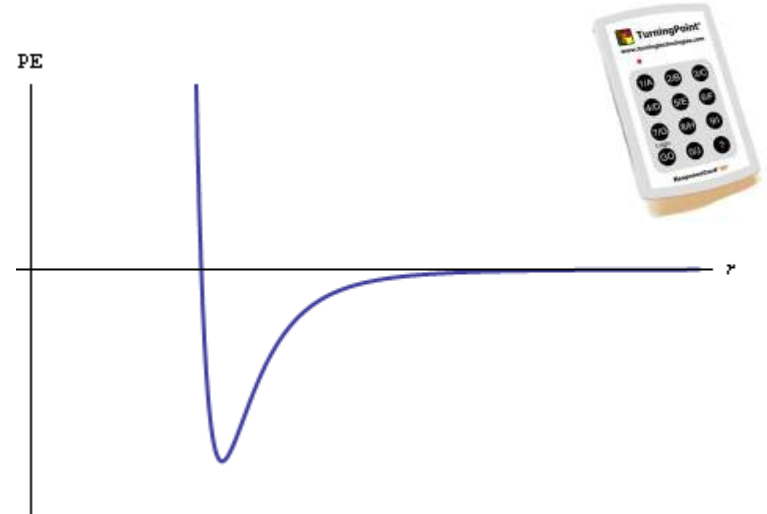
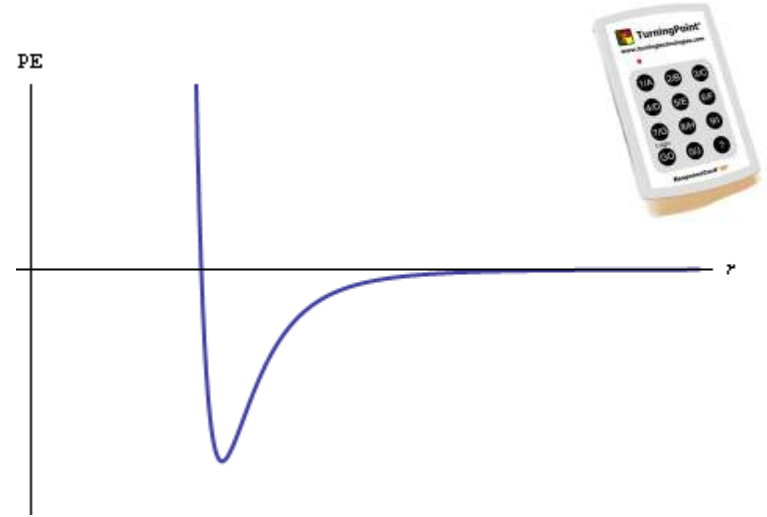


This potential energy diagram represents the interaction between two atoms. It is negative at its lowest point. This means...



1. An atom can never be at this location, since energy can't be  $< 0$ .
2. When atoms are separated, energy is released.
3. When atoms start far and move closer, energy is released.
4. Energy must be added to get atoms to separate.
5. Energy must be added to get atoms to move closer together.
6. The fact that the potential energy is negative tells us nothing; this is just a result of choosing an arbitrary zero point.
7. More than one of these
8. None of these
9. Not enough information to answer

You know that two atoms that are far apart are barely interacting. How is this represented visually in the PE diagram?



1. The potential energy approaches zero as  $r$  gets large.
2. The PE curve is close to horizontal as  $r$  gets large.
3. The PE curve is close to vertical as  $r$  gets small.
4. The potential energy at large  $r$  is smaller than the potential energy at small  $r$ .
5. More than one of these
6. The PE diagram doesn't demonstrate this information
7. None of these



Which describe(s) the difference between a strong and a weak chemical bond between two atoms?

- A. The strong bond stores more energy than the weak bond.
  - B. More energy is needed to separate strongly bonded atoms than weakly bonded atoms.
  - C. More energy is released to the environment when two atoms become strongly bonded than when two atoms become weakly bonded.
- 1. A only
  - 2. B only
  - 3. C only
  - 4. B and C only
  - 5. A, B, and C