



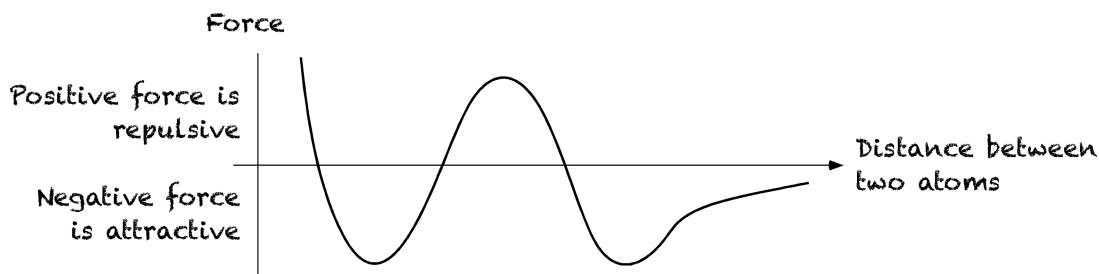
Read the following questions before the video begins. Answer the questions while the video is in progress. This is an **INDIVIDUAL** effort, so complete it by yourself. **DON'T ASK OTHERS FOR ANSWERS** since doing so would be cheating. Your neighbor might even have a different set of questions. So copying will likely lead to confusion and error.

Most of the important information (and answers to the questions on this sheet) is in the text spoken during the presentation. So don't become entranced by the visual imagery; concentrate and stay focused on the words!

1. Roger Boscovitch

- A. was a highly focused specialist in science
- B. was not a scientist but was well read

2. In Roger Boscovitch's theory of interatomic interaction as described by the plot of force versus distance shown below, circle a position where the force is zero (neither attractive nor repulsive) but the position is **NOT** stable.



3. The legitimate, scientific discovery of atoms was made by

- A. Roger Boscovitch
- B. Isaac Newton
- C. Michael Faraday
- D. John Dalton

4. Every atom in every piece of solid is in a position of...

5. The amount of energy in the universe now is the same as it always has been and always will be.

- A. True
- B. False

6. Potential energy depends on

- A. motion
- B. speed
- C. force
- D. position

7. When oil molecules are ignited, the atoms are rearranged to form new molecules with...

8. One of the following statements made by the narrator is a misrepresentation of physical reality. Which one is it?

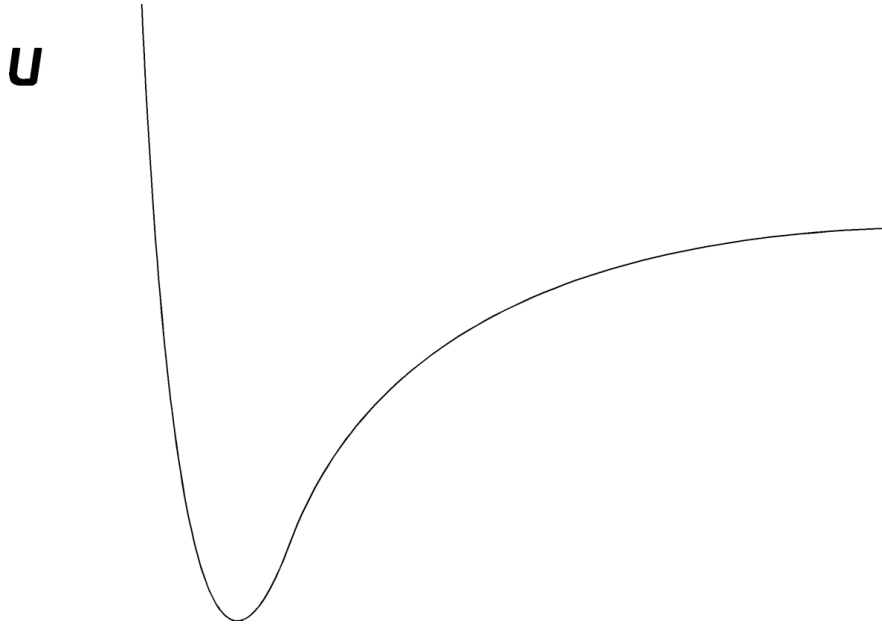
A. a fireman with gear weighs about 90 kg

B. acceleration due to gravity is about 10 m/s^2

C. the fireman reaches a height of about 30 m above the ground

9. The human body is a remarkably _____ machine.

10. On the plot of potential energy shown below, label the regions of attraction, repulsion, and equilibrium for two hydrogen atoms in close proximity.



11. The committees that govern Caltech's physics courses have authorized Professor Goodstein to...



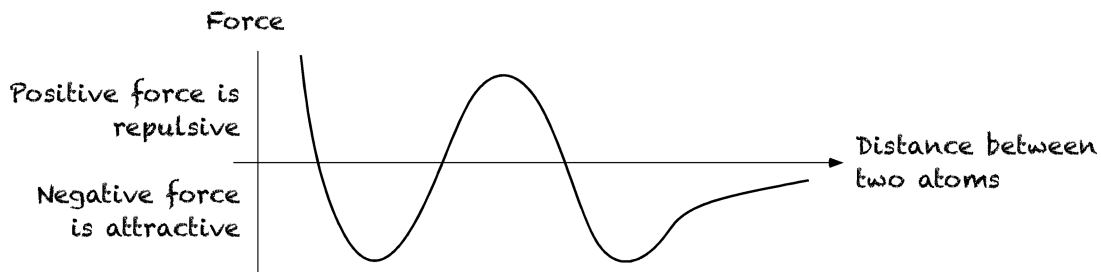
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1. Roger Boscovitch was a(n)

- A. architect B. archeologist C. diplomat D. author
E. All of these and more

2. In Roger Boscovitch's theory of interatomic interaction as described by the plot of force versus distance shown below, circle a position of stable equilibrium.



3. The legitimate, scientific discovery of fields of force was made by

- A. Roger Boscovitch B. Isaac Newton C. Michael Faraday D. John Dalton

4. Every atom in every piece of solid is in a position of...

5. The amount of energy in the universe now is the same as it always has been and always will be.

- A. True B. False

6. Potential energy depends on

- A. motion B. speed C. force D. position

7. According to Jules Verne, all space travelers needed to get to the moon was enough...

8. What is the source of a fireman's energy?

9. A food calorie (Cal) is equal to _?_ heat calories (cal).

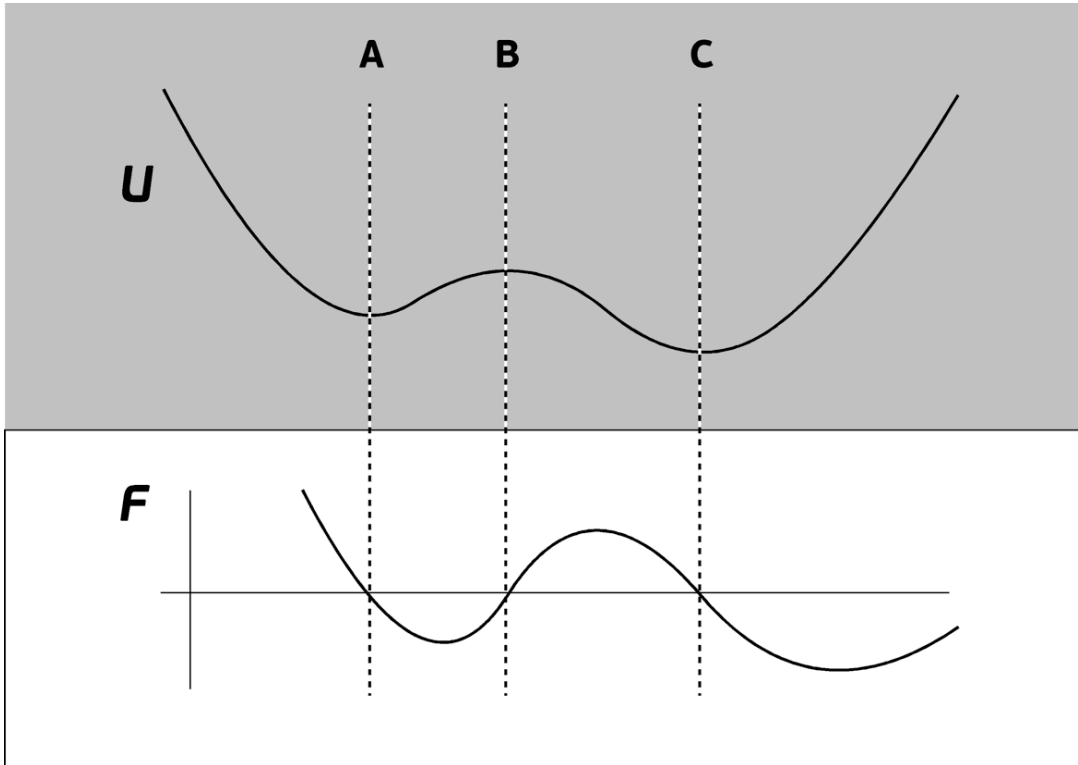
A. 1000

B. 1/10

C. 100

D. 1/1000

10. Identify the type of equilibrium at points A, B, and C.



A: _____

B: _____

C: _____

11. The committees that govern Caltech's physics courses have authorized Professor Goodstein to...