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Question 1: The **inductive** charging (i.e. the reason the small dome we used in the lab) acquires the opposite change than the main Van de Graaf dome is because

A. The VDG is using AC current
B. The negative charge of the electron
C. The repelling forces between electrons
D. None of these on the list

Question 2: The charges on a randomly-shaped **conductor always reside**

A. at the surface
B. at its center
C. depends on the material

Question 3: An electrostatic **luminous** spark we observed in the lab is a result of

A. The electron production from excited atoms
B. The electron reduction from excited atoms
C. The photons produced from excited atoms
D. None of these on the list

Question 4: There are free electrons in the **air we breathe**

A. True
B. False

Question 5: The air's electrical breakdown means that

C. The air becomes an electrical insulator
D. The air becomes an electrical conductor
E. None of these on the list

Question 6: One argues that because the proton is much larger in mass than the electron, it creates a much **stronger electric field** at the same distance than the electron does. This statement is

A. True
B. False
C. It depends on the proton or the electron

Question 7: A student argues that the **sound** that is **produced** during the VDG spark is due to the thermal expansion of the surrounding air. This statement is

A. True
B. False

Question 8: The **size** of the VDG dome determines

A. How much charge is stored
B. How long the sparks can reach
C. The electric potential magnitude on the surface of the sphere
D. All of these on the list

Question 9: The **electric field at the center** of the VDG dome is

A. The maximum
B. The minimum but NON zero
C. Zero