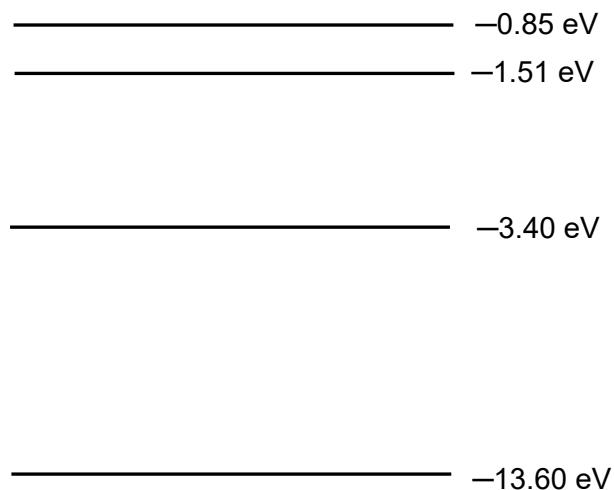


- 28** The diagram below shows some of the lowest energy levels for the hydrogen atom.

The atom is at its ground state.



Which of the following will result in excitation to the highest possible energy level?

- A** A photon of energy 10.20 eV incident on the atom.
- B** An electron of energy 11.50 eV colliding with the atom.
- C** An electron with de Broglie wavelength of  $3.50 \times 10^{-10}$  m colliding with the atom.
- D** A photon of wavelength  $9.95 \times 10^{-8}$  m incident on the atom.