Physics
Energy Level Diagrams,
Form: A

Name: _____
Date: _____
Period: _____
Primary Peer Reviewer: _____

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Section 1. Free Response

1. (a) A theoretical atom has energy levels given by $E_n = \frac{-20eV}{n^2}$. Draw an energy level diagram for this atom. Be sure to include the principal quantum number and the energy of each level on your diagram.

(b) An electron moves from the n=3 state to the n=2 state. Is energy absorbed or released? Justify your answer.

(c) A photon with a wavelength of 59 nm is absorbed by the atom while the electron is in the n=1 state, causing the electron to be ejected from the atom. What is the final velocity of the electron?

Answer Key for Exam A

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