25 In a photoelectric experiment, photons of energy 4.7×10^{-19} J fall onto a metal plate in a vacuum tube and electrons are emitted. The electrons are collected by an electrode and a current is detected. When the potential of the metal is made 0.50 V more positive than the electrode, the current reduces to zero. What is the work function energy of the metal?

A 3.1×10^{-19} J
B 3.5×10^{-19} J
C 3.9×10^{-19} J
D 4.2×10^{-19} J