17 Ultraviolet light of wavelength 20.0 nm is incident on a metal surface. The metal has a work function of 3.68 eV. Electrons are released by the photoelectric effect.

(a) Calculate the maximum speed of the electrons as they are released from the metal surface.

(5)

Maximum speed = ...

(b) A student suggests that if the wavelength and intensity of the light used are both increased, the maximum speed of the electrons released from the metal surface also increases.

Explain whether the student's suggestion is correct.

(4)

(Total for Question 17 = 9 marks)