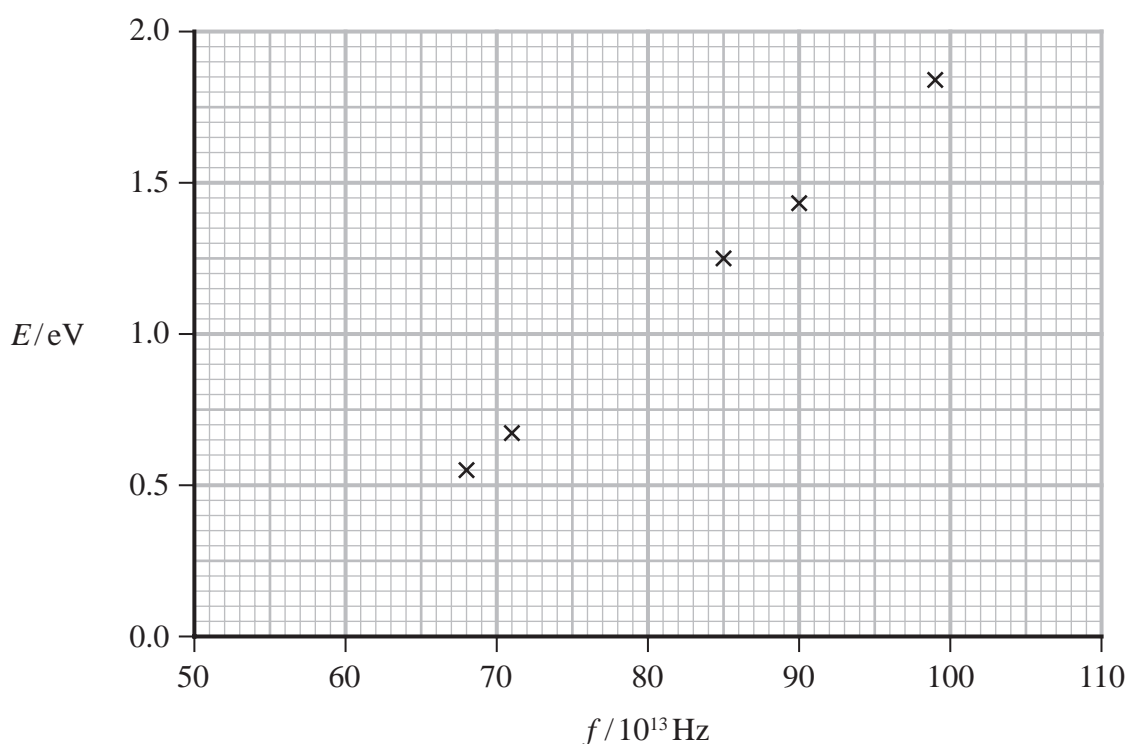


16 In an investigation of the photoelectric effect, electromagnetic radiation of frequency f was directed onto a metal plate. The maximum kinetic energy E of the photoelectrons emitted from the metal plate was determined. The procedure was repeated for a range of frequencies.

The graph shows how E depended upon f .



(a) Determine a value for the Planck constant, h , in J.s.

(4)

$$h = \dots \mathbf{J_S}$$

(b) The table gives data for different metal surfaces.

Metal surface	Work function/eV
Caesium	2.0
Calcium	2.9
Magnesium	3.7

Deduce which metal was being used in the investigation.

(3)

(Total for Question 16 = 7 marks)