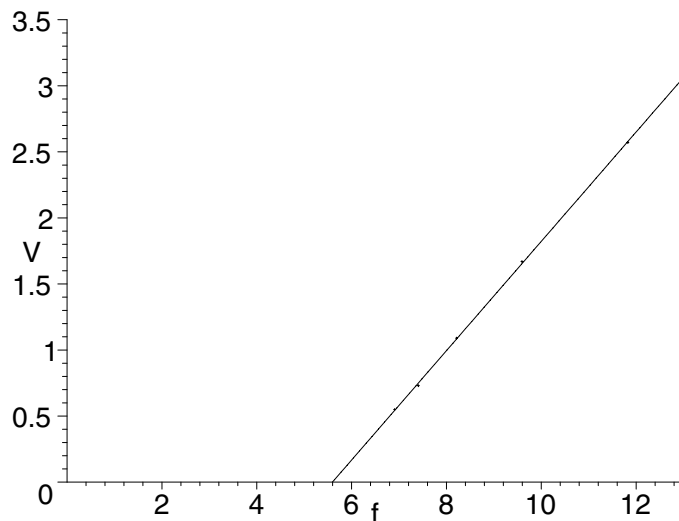


28. (a) We calculate frequencies from the wavelengths (expressed in SI units) using Eq. 39-1. Our plot of the points and the line which gives the least squares fit to the data is shown below. The vertical axis is in volts and the horizontal axis, when multiplied by  $10^{14}$ , gives the frequencies in Hertz.



From our least squares fit procedure, we determine the slope to be  $4.14 \times 10^{-15} \text{ V}\cdot\text{s}$ , which is in very good agreement with the value given in Eq. 39-3 (once it has been multiplied by  $e$ ).

- (b) Our least squares fit procedure can also determine the  $y$ -intercept for that line. The  $y$ -intercept is the negative of the photoelectric work function. In this way, we find  $\Phi = 2.31 \text{ eV}$ .