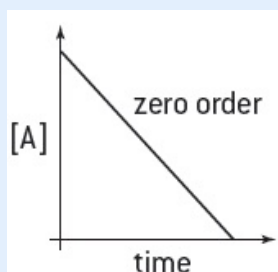
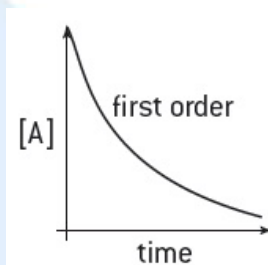


## SL & HL Answers to Graphical techniques questions

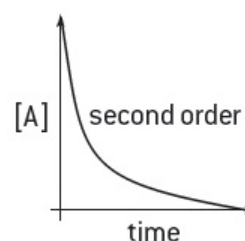
1. (a)



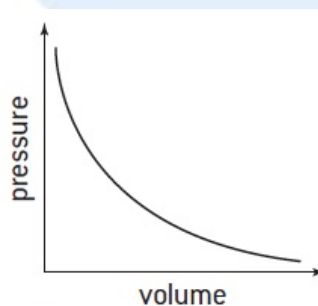
(b)



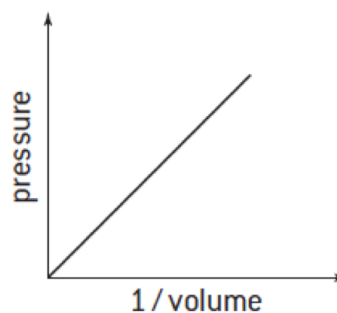
(c)



2. (a)



(b) Plot pressure against the reciprocal of volume



3. By interpolation, the concentration of iron(III) thiocyanate in the sample is 0.46 ppm.

4. Plot a graph of the volume measured (in  $\text{cm}^3$ ) on the y-axis and temperature (in  $^{\circ}\text{C}$ ) on the x-axis. Choose the scale so that the temperature measures from about  $-300^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$  and the volume measures from  $0\text{ cm}^3$  to about  $150\text{ cm}^3$ . Find the straight-line of best-fit. Extrapolate the line to determine what the temperature would be if  $V = 0$ . This value will be the value for absolute zero in  $^{\circ}\text{C}$ .