5 In this question, the unit vectors **i** and **j** are horizontal and vertically upwards respectively.

A particle has mass 2.5 kg.

(a) Write the weight of the particle as a vector. [1]

The particle moves under the action of its weight and two external forces $(3\mathbf{i} - 2\mathbf{j})$ N and $(-\mathbf{i} + 18\mathbf{j})$ N.

(b) Find the acceleration of the particle, giving your answer in vector form. [2]