DENSITY OF PLASTICINE

1 A student carries out an experiment to determine the density of plasticine. She records the mass m and the volume V of a range of differently-sized samples. These readings are plotted on a graph as shown in Fig. 2.1.

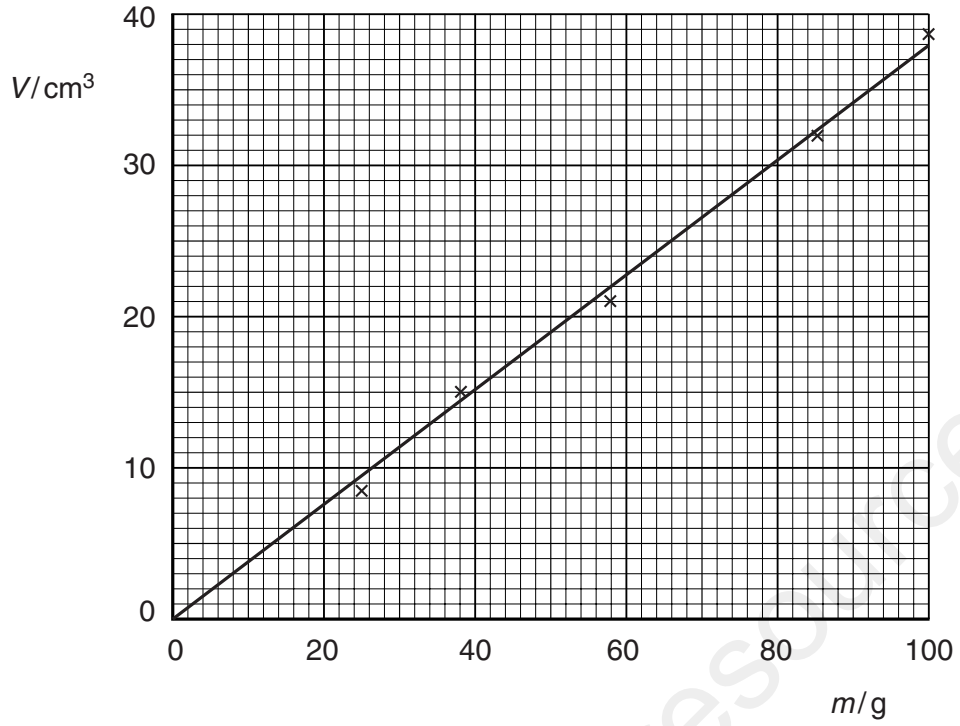

Fig. 2.1

(a) **(i)** Determine the gradient G of the line. Show clearly how you obtain the necessary information.

G = ...

(ii) Determine the density ρ of the plasticine using the equation $\rho = \frac{1}{G}$.

ρ = ...

[5]

(b) The student could calculate the density from one set of readings. Suggest why she takes more than one set of readings and plots a graph.

.....

..... [1]

(a)	**(i)** triangle seen	**1**
	large triangle (> ½ line)	**1**
	correct readings to ½ sq	**1**
	G = 0.37 – 0.39	**1**
	(ii) ρ = 2.63 (ecf)	**1**
	2/3 sf and g/cm^3	**1**
(b)	increased accuracy	**1**
		TOTAL 6