

NAME: _____

Practice Exam
Skill Building

1. An object with a mass of 17.0 kg displaces 2.5 L of water when placed in a large overflow container. Calculate the density of the object.

$$D = \frac{M}{V}$$
$$= \frac{17}{2.5}$$
$$= 6.8$$

$$M = 17 \text{ kg}$$
$$V = 2.5 \text{ L}$$
$$D = ?$$

∴ the density is 6.8 kg/L

2. Calculate the mass of a liquid with a density of 2.2 g/mL and a volume of 35.0 mL

$$M = D \times V$$
$$= 2.2 \times 35$$
$$= 77$$

$$D = 2.2 \text{ g/mL}$$
$$V = 35 \text{ mL}$$
$$M = ?$$

∴ the mass is 77 g.

3. A 600 mL bottle of a liquid has a mass of 678.22 g.

- (a) What is the density of the liquid? (Answer to 3 decimal places)

$$D = \frac{M}{V}$$
$$= \frac{678.22}{600} = 1.13$$

$$M = 678.22$$
$$V = 600$$
$$D = ?$$

∴ the density is 1.130 g/mL

- (b) What volume container would be required to store 3 kg of the liquid from question? (answer to the nearest mL)

$$V = \frac{M}{D}$$
$$= \frac{3000}{1.13}$$
$$= 2654$$

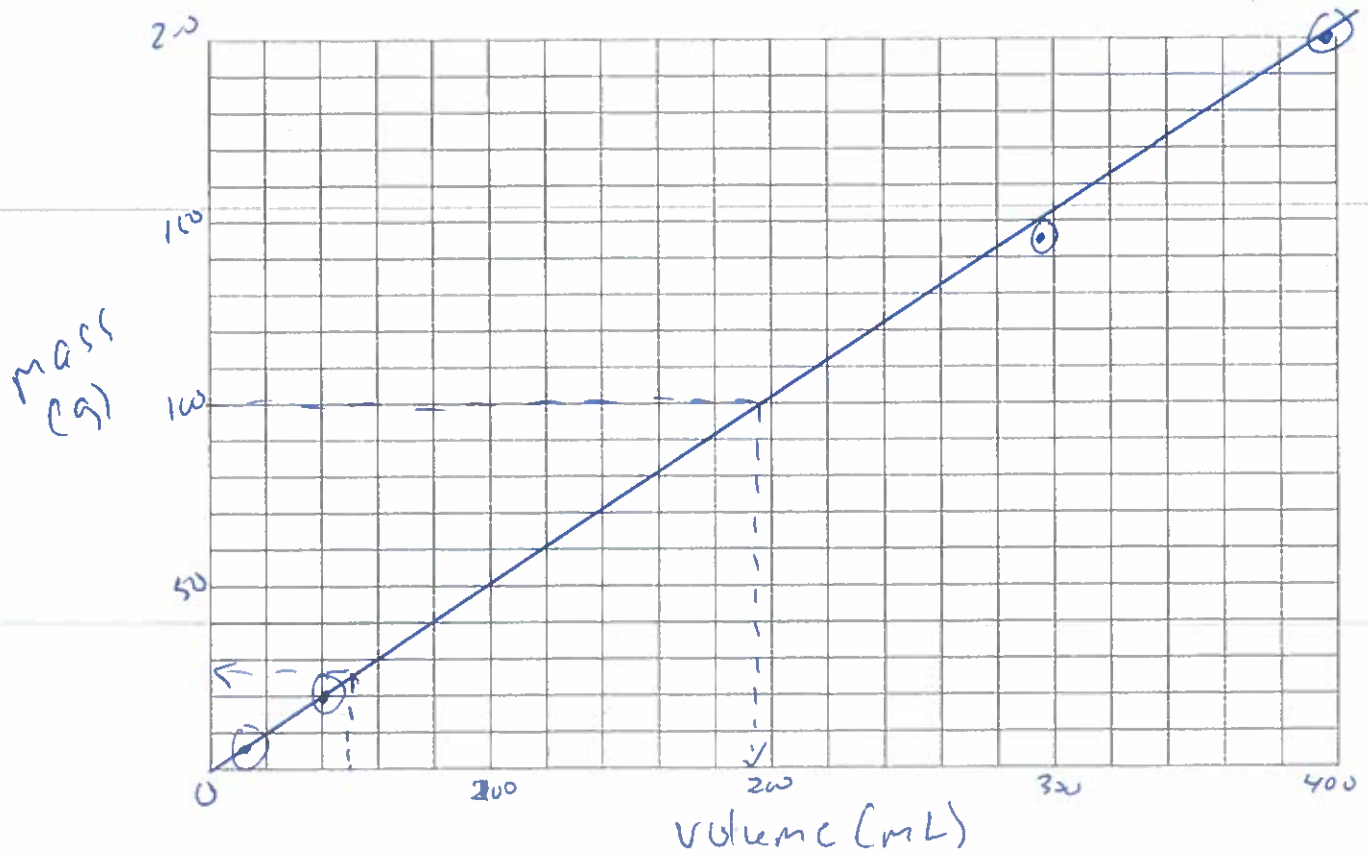
$$M = 3 \text{ kg}$$
$$= 3000 \text{ g}$$
$$D = 1.13 \text{ g/mL}$$
$$V = ?$$

∴ the volume is 2654 mL

4. The data table gives the mass and volume of different blocks.
Make a line graph, using the data, by placing volume on the x-axis and mass on the y-axis

Mass and Volume of Blocks

Block	Mass (g)	Volume (mL)
1	4.9	10.2
2	20.4	41.0
3	145.8	292.6
4	200.0	398.9



What is the mass of the block when the volume is 50 mL? (1 mark)

28 g

What is the volume of the block when it has a mass of 100 g? (1 mark)

192 mL