

	8 mL Trial	10 mL Trial
Mass of Water in Cylinder	36.65	38.66
Volume of Water in Cylinder	33.65 - 25.43	38.66 - 25.43
Calculated Density of water	9.22	13.23
Average Density of Water	9 ml	
Correct Density of Water	0.9982	
Error in the Average Density	0.1	
% Error in the Average Density	11%	

(-7)

$$\begin{aligned} & (D1 + D2) / 2 \\ & (8 \text{ ml} + 10 \text{ ml}) / 2 \\ & = 18 \text{ ml} / 2 \\ & \text{Average Density of water} \\ & = 9 \text{ ml} \end{aligned}$$

$$\begin{aligned} & [(10 \text{ ml} - 9 \text{ ml}) / 9 \text{ ml}] \times 100\% \\ & = [1 \text{ ml} / 9 \text{ ml}] \times 100\% \\ & \text{Error in the Average} \\ & \text{Density} \\ & 11\% \end{aligned}$$

incorrect (points already taken off first page)

II. Density of Marbles

$$\begin{aligned} \text{Mass of the 3 marbles} &= 15.07 \text{ g} \quad 44.36 \text{ g} - 29.29 \text{ g} \\ \text{Volume of the 3 marbles} &= 6 \text{ ml} \quad 36 \text{ ml} - 30 \text{ ml} \quad \text{sf } (-0.5) \\ \text{Density of the 3 marbles} &= 2.5 \text{ g/ml} \quad 15.07 \text{ g} / 6 \text{ ml} \end{aligned}$$

*Show calculation for the density of the 3 marbles: (-2)

$$\begin{aligned} & 2.2 \text{ g/ml} + 2.2 \text{ g/ml} + 2.3 \text{ g/ml} + 2.3 \text{ g/ml} \\ & 9.0 \text{ g/ml} / 4 = 2.25 \text{ g/ml} \end{aligned}$$

this goes in space below

Calculate the Average Density from the class data:

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$$(2.2 + 2.36 + 2.24) / 3 = 2.27 \quad (?)$$

Calculate the Error in the Average Density:

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$$(-0.5) \quad 2.3 \text{ g/ml} - 2.5 \text{ g/ml} = -0.20 \text{ g/ml} \quad \text{sf } (-0.5)$$

Calculate for % Error in the Average Density:

$$-0.2 \text{ g/ml} - 2.5 \text{ g/ml} = 0.20 \text{ g/ml}$$

(-2)