

PROBLEM

Try the following example to see how well you understand. A student measured the volume of a metal cylinder in four separate trials, obtaining these results: 7.525 cm^3 , 7.194 cm^3 , 7.311 cm^3 , and 7.838 cm^3 . Calculate the mean and standard deviation. Report the results with the correct number of significant figures.

The mean is 7.467 cm^3 , properly expressed as 7.5 cm^3 or $7.5 \pm 0.3 \text{ cm}^3$, since the standard deviation is $\pm 0.283 \text{ cm}^3$.