## Answer on question #54423, Physics / Computational Physics

**Question** The length of each side of a cube measured with verier callipers is 30mm. If the venier callipers can be read with an uncertainty of  $\pm 0.14$ mm, what does this give for approximate uncertainty in the value of its volume?

Solution Uncertainty in measuring one side is

$$\frac{0.14}{30} \approx 0.00467$$

To find volume, you have to multiply side three times. When multiplying, relative uncertainty can be just added. Hence,

$$3 \cdot 0.00467 \approx 0.014$$

Is relative uncertainty in volume. Answer is 1%.

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