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| **Topic 1: Number and Algebra**  | **Scientific Notation** |
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| 1. A mold to create a chocolate sphere has a radius of 11.94 cm.
	1. Jennifer was making a solid chocolate ball with this mold. Find the volume of the ball, expressing your answer in the form of $a\*10^{k}, 1\leq a<10$ and $k\in Z$.
	2. Jennifer gave the chocolate ball to her friend Amy. She decided to melt it down and turn it into a cone. The height of the cone would be 12.5 cm. Find the radius of the base of the cone, correct to 2 significant figures.
 | (3 marks)(3 marks) |
| Mark scheme:1. $V=\frac{4}{3}π(11.94)^{3}$

$$V=7130.198…$$$$V=7.13\*10^{3} cm^{3}$$1. Recognizing that the volume of the cone equals the volume of the ball

$$\frac{1}{3}πr^{2}\*\left(12.5\right)=7130.198$$$$r=23.339$$$$r=23 cm$$\*\* This question could also be used in Topic 3 Geometry and Trigonometry. | (M1)(A1)(A1)(M1)(A1)(A1) |