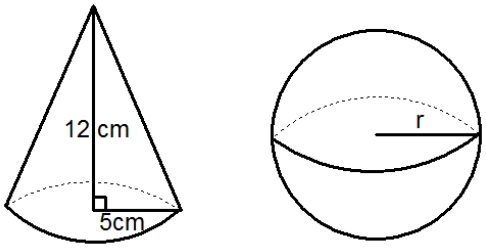
Clive On Volume 2 - Answers

Clive is tackling his volume homework and knows that he's made mistakes somewhere.
Can you spot and correct the mistakes Clive has made?
Can you explain what mistakes Clive has made, and maybe give him some tips so that he (hopefully) doesn't make them again?

Question 1:

The two shapes below have the same volume:



Find r, giving your answer to 1 decimal place.

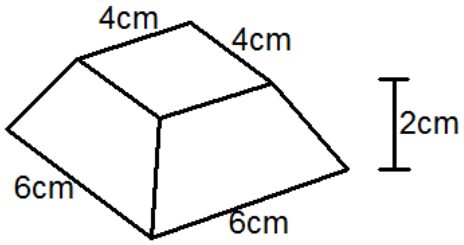
Clive's answer:	*Your answer:*
$\frac{1}{3} \times \pi \times 5^2 \times 12 = \frac{4}{3}\pi r^3$ $r = \sqrt[3]{\frac{4 \times 5^2 \times 12}{9}}$ Answer: $5.1cm$	$\frac{1}{3} \times \pi \times 5^2 \times 12 = \frac{4}{3}\pi r^3$ $r = \sqrt[3]{\frac{5^2 \times 12}{4}}$ Answer: $4.2cm$

What mistake has Clive made?

He got the divided by 3 and multiplied by 4 instead of the other way around.

Question 2:

The frustum below is $2cm$ tall.



Find its volume to 1 decimal place.

Clive's answer:	*Your answer:*
To find the volume of the frustum: Whole pyramid – part cut off. $\frac{1}{3} \times 6^2 \times 3 - \frac{1}{3} \times 4^2 \times 1$ Answer: $30.7cm^3$	To find the volume of the frustum: Whole pyramid – part cut off. $\frac{1}{3} \times 6^2 \times 6 - \frac{1}{3} \times 4^2 \times 4$ Answer: $50.7cm^3$

What mistake has Clive made?

The frustum is one third the height of the pyramid was, not two thirds as Clive thought.