

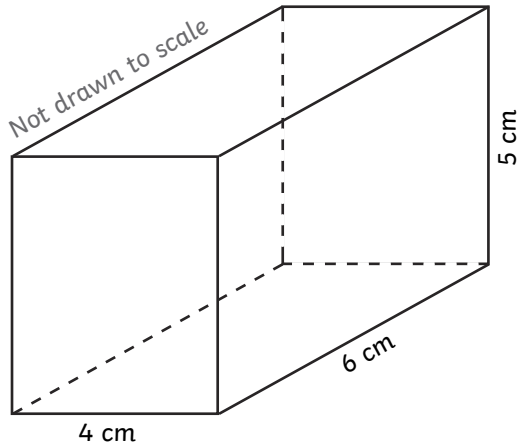


Use the formula

length × width × height

to calculate the volume of a cuboid.

1) Two children are discussing the best way to find the volume of this cuboid.



Amrit says - To work out the volume I made sure to use the formula length × width × height in order.

$$4 \times 6 = 24$$

$$24 \times 5 = 120\text{cm}^3$$



Amrit

Noah says - I just multiplied the measurements in the order I found the easiest and quickest to work out.

$$4 \times 5 = 20$$

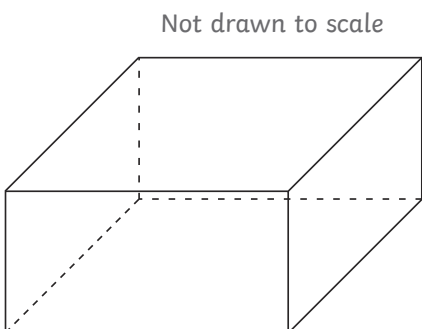
$$20 \times 6 = 120\text{cm}^3$$



Noah

Will Noah's method always work? Explain your answer fully.

2) Ada measures the sides of this cuboid in order to find the volume.



All of the sides are even numbers.

I calculated that the volume of my shape was 17cm^3 .



Ada

I don't think Ada's answer can be correct if all the sides were even number.



Chelsea

Do you agree with Chelsea? Explain your reasoning.



- 1) Yes, Noah's method will always work because the order in which the multiplication is carried out has no effect on the answer. Choosing the most efficient order to multiply the numbers is an effective method to use.
- 2) Chelsea is correct. If all of Ada's side measurements were even numbers, the answer cannot be an odd number. This is because an even number \times even number \times even number = an even number.

For example:

$$4 \times 2 \times 8 = 64\text{cm}^3$$