Use the formula

length × width × height

to calculate the volume of a cuboid.

1) Calculate the volume for each of these cuboids.

a)   Not drawn to scale

3 cm
4 cm
6 cm

_____

_____ cm³

b)   Not drawn to scale

4 cm
8 cm
2 cm

_____

_____ cm³

c)   Not drawn to scale

3 cm
9 cm
2 cm

_____

_____ cm³

2) Calculate the missing values in each of these cuboids.

Not drawn to scale

____ cm
12 cm
2 cm

12 × 2 × ____ = 72cm³

_____

_____

Not drawn to scale

2 cm
8 cm
____ cm

____ × 4 × 6 = 120cm³

_____

_____

Not drawn to scale

6 cm
4 cm
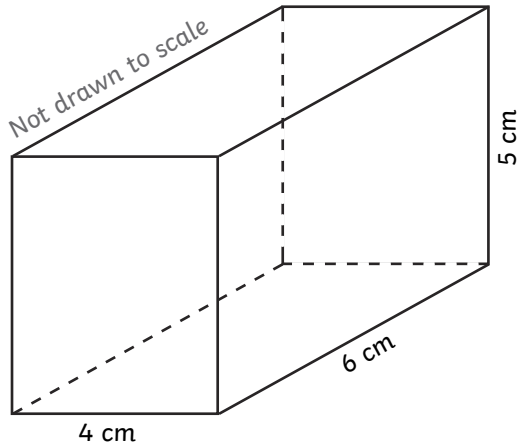____ cm

8 × ____ × 2 =112cm³

_____

_____

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.

Not drawn to scale

5 cm

6 cm

4 cm

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

$4 × 6 = 24$

$24 × 5 = 120cm^3$

Amrit

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

$4 × 5 = 20$

$20 × 6 = 120cm^3$

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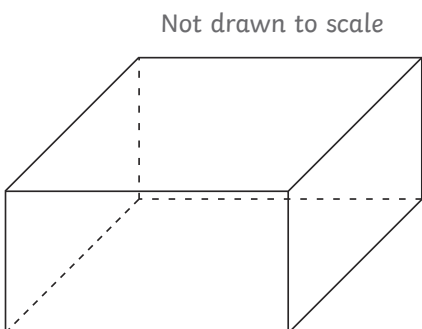
Will Noah's method always work? Explain your answer fully.

_____

_____

_____

_____

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

Not drawn to scale

All of the sides are even numbers.

I calculated that the volume of my shape was 17cm³.

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.
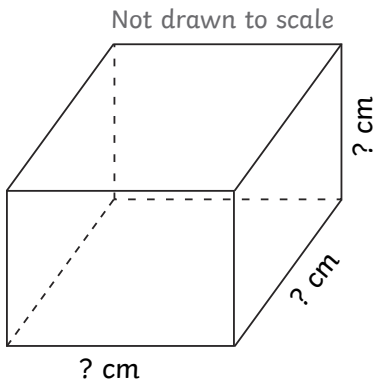
_____

_____

_____

_____

Use the formula

length × width × height

to calculate the volume of a cuboid.

1) A cuboid has sides that are whole numbers. No side is smaller than 3cm or longer than 10cm. It has a volume between 70cm³ and 75cm³.

Not drawn to scale

? cm

? cm

? cm

Find three sets of different dimensions for the cuboid.
(Rearranging the order of the measurements is not accepted as a different answer.)

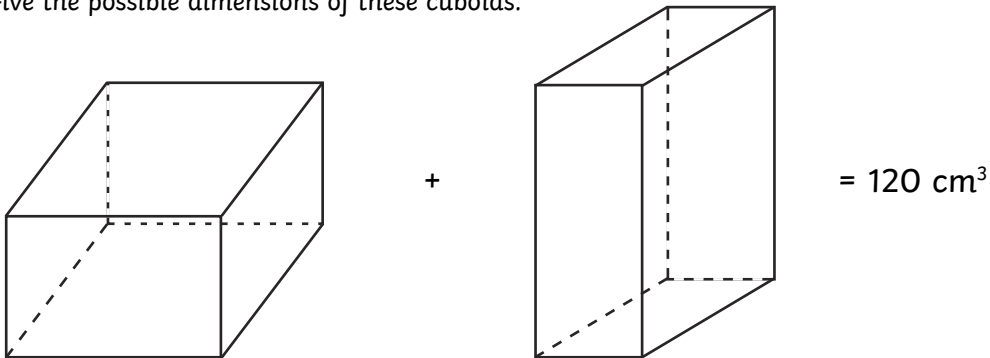length = _____cm   length = _____cm   length =_____cm

width = _____cm   width = _____cm   width =_____cm

height = _____cm   height = _____cm   height = _____cm

volume = _____cm   volume = _____cm   volume = _____cm

2) When added together, two different cuboids have a volume equal to 120cm³.
Give the possible dimensions of these cuboids.

+   = 120 cm³

Find 5 different answers.
(Rearranging the order of the measurements is not accepted as a different answer.)