VOLUME OF A CUBOID

White Rose Maths

WALT

WALT find the volume of cuboids

I can:

- ✓ understand the formula for finding volume.
- ✓ use the formula to find volumes of cuboids.
- ✓ use my reasoning skills about volume.

GET READY

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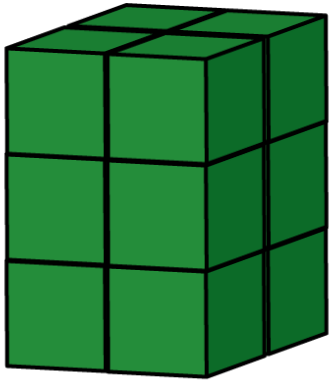
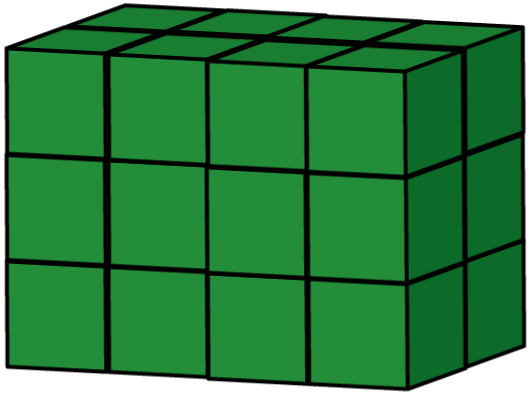
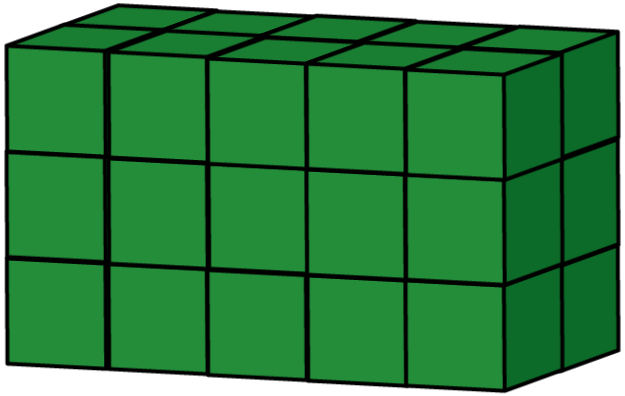
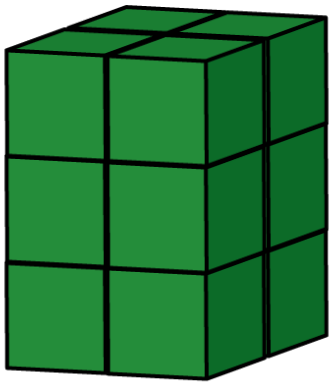
If the volume of each cube is 1 cm^3, what is the volume of each shape?



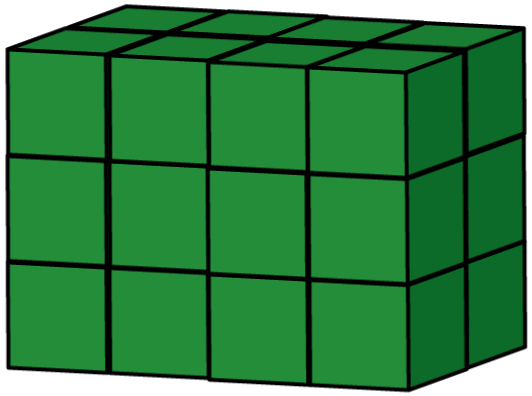




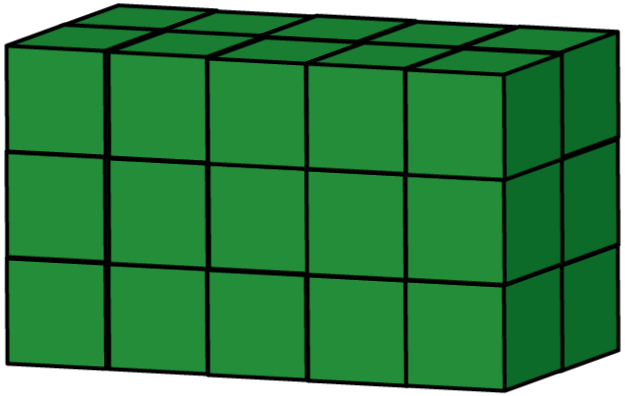
If the volume of each cube is 1 cm^3, what is the volume of each shape?



12 cm^3



24 cm^3



30 cm^3

LET'S LEARN

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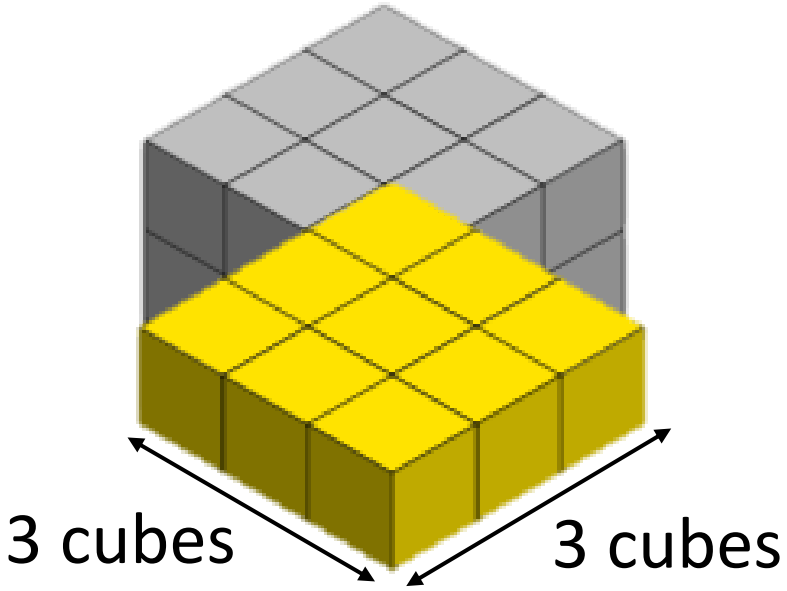
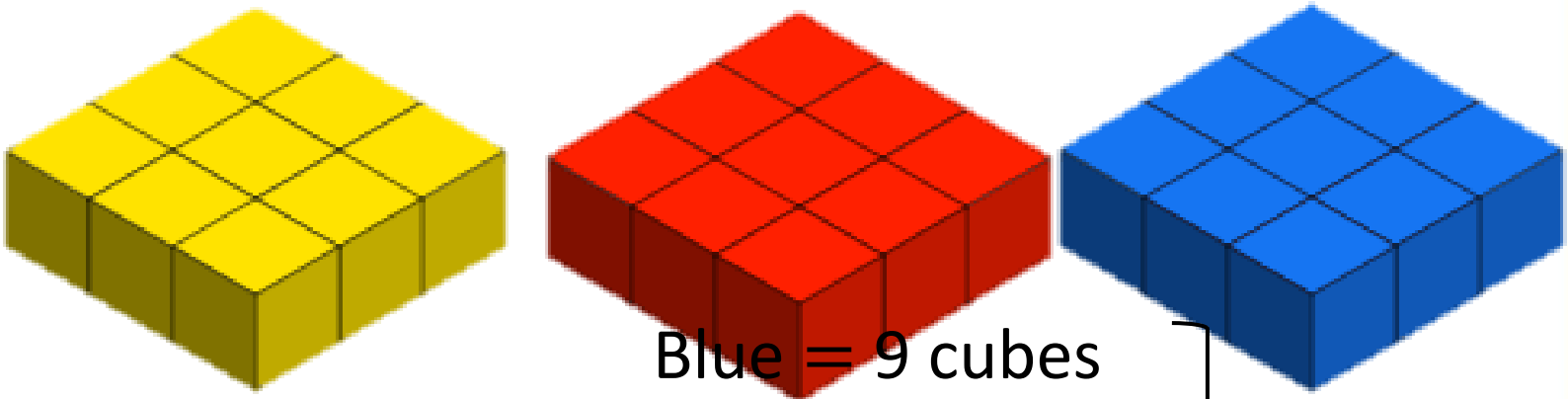


$3 \times 3 = 9$ cubes

Have a think



Blue = 9 cubes

Red = 9 cubes

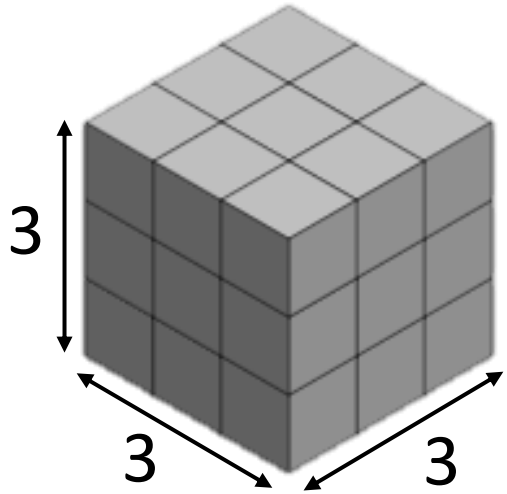
Yellow = 9 cubes

9×3

27 cubes

What does the 9 represent?

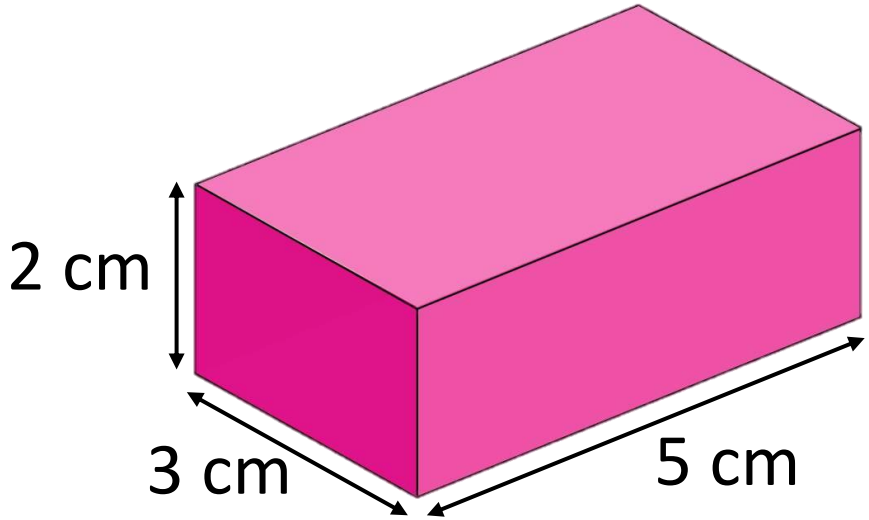
What does the 3 represent?



27 cubes

The **volume** of the cuboid is 27 cubes

Volume of a cuboid = Length × Width × Height



Volume of a cuboid = Length × Width × Height

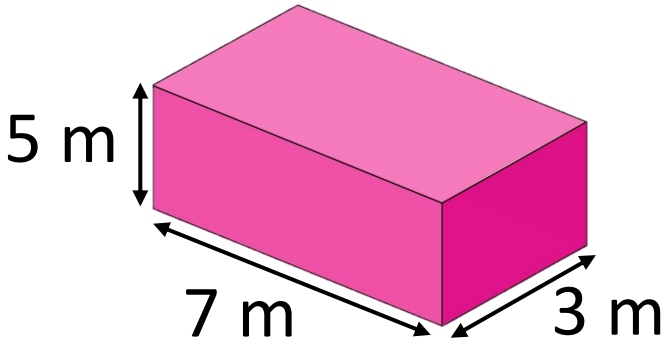
= 5 cm × 3 cm × 2 cm

= 30 cm^3

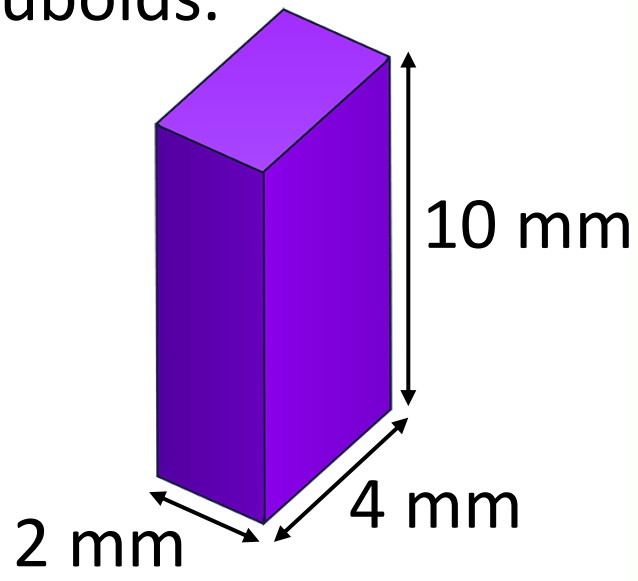
Have a think

Volume of a cuboid = Length × Width × Height

Use the formula to calculate the volume of the cuboids.



$7 \times 3 \times 5 = 105 \text{ m}^3$



$4 \times 2 \times 10 = 80 \text{ mm}^3$

YOUR TURN

Have a go at questions
1 - 4 on the worksheet

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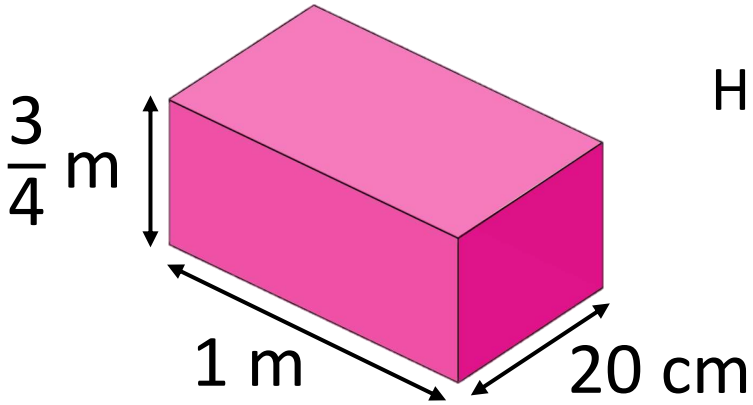
Who do you agree with?
What mistake has been made?

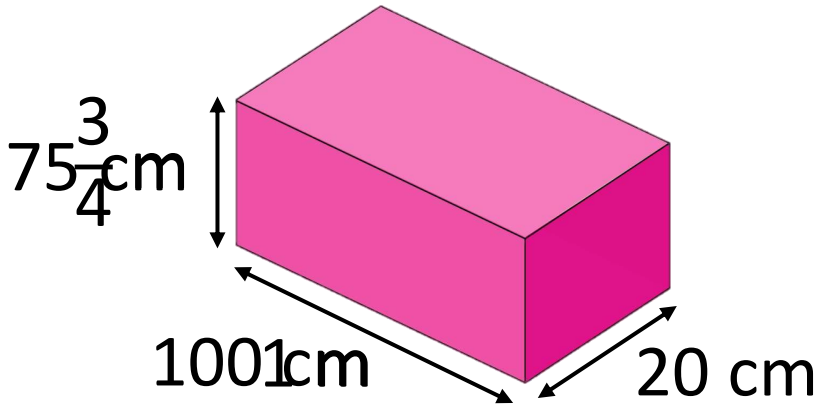


Have a think

The volume is 1,500 cm³

The volume is 150,000 cm³

Who do you agree with?
What mistake has been made?



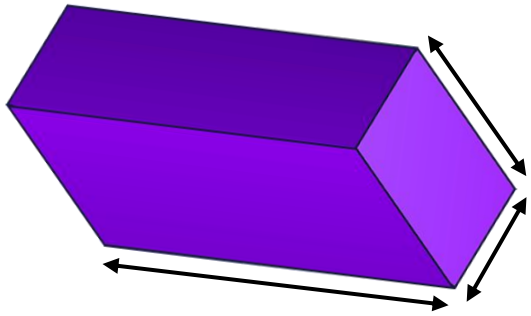
The volume is 1,500 cm³

$1 \times 20 \times 75$

The volume is 150,000 cm³

$100 \times 20 \times 75$

If a cuboid has a volume of 20 cm³, what could the length, width and height be?

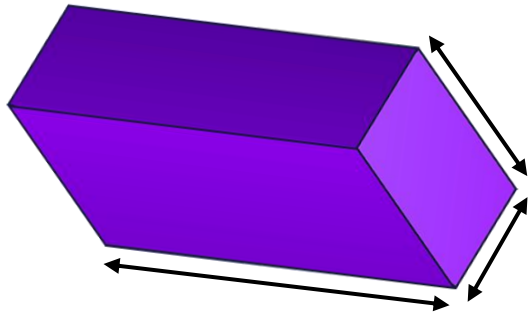


Volume of a cuboid = Length × Width × Height

1 × 4 × 5 = 20 cm³

Have a think

If a cuboid has a volume of 20 cm³, what could the length, width and height be?

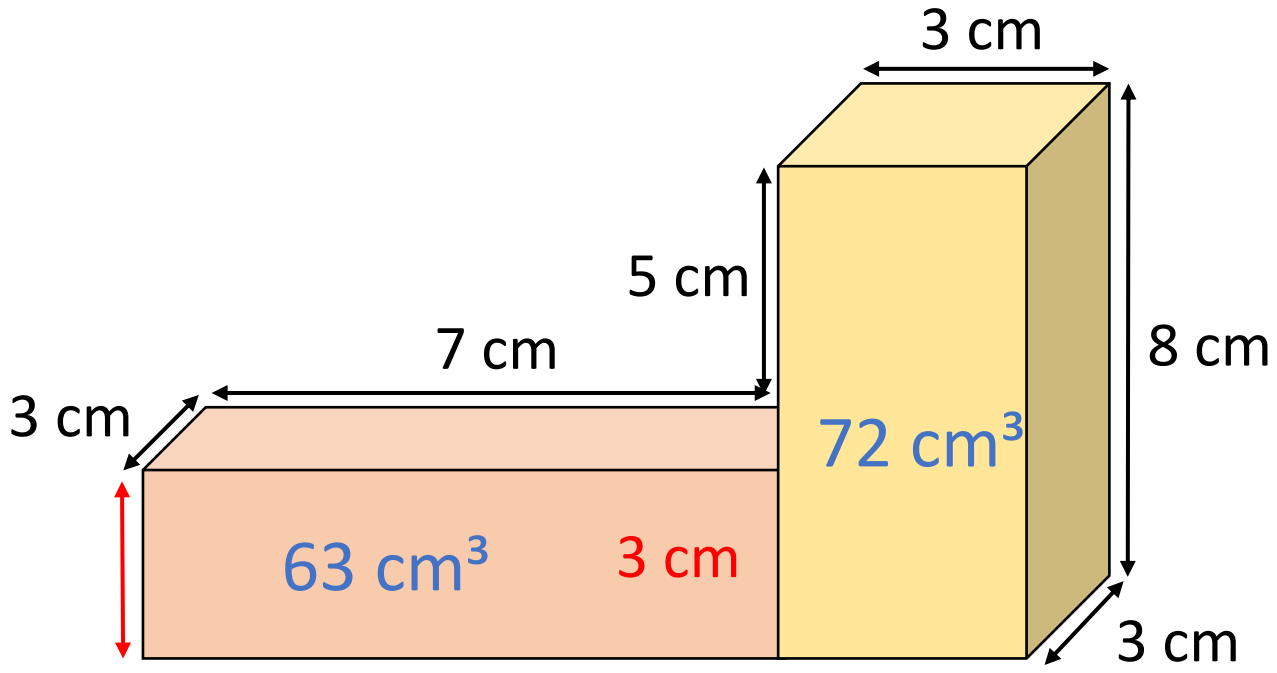


$L \times W \times H = 20 \text{ cm}^3$

$1 \times 5 \times 4 = 20 \text{ cm}^3$

$2 \times 2 \times 5 = 20 \text{ cm}^3$

The shape is made up of two different size cuboids.
Calculate the total volume of the shape.



$7 \times 3 \times 3$ $3 \times 3 \times 8$

$135\ cm^3$

Have a think

YOUR TURN

Have a go at the rest of the questions on the worksheet

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