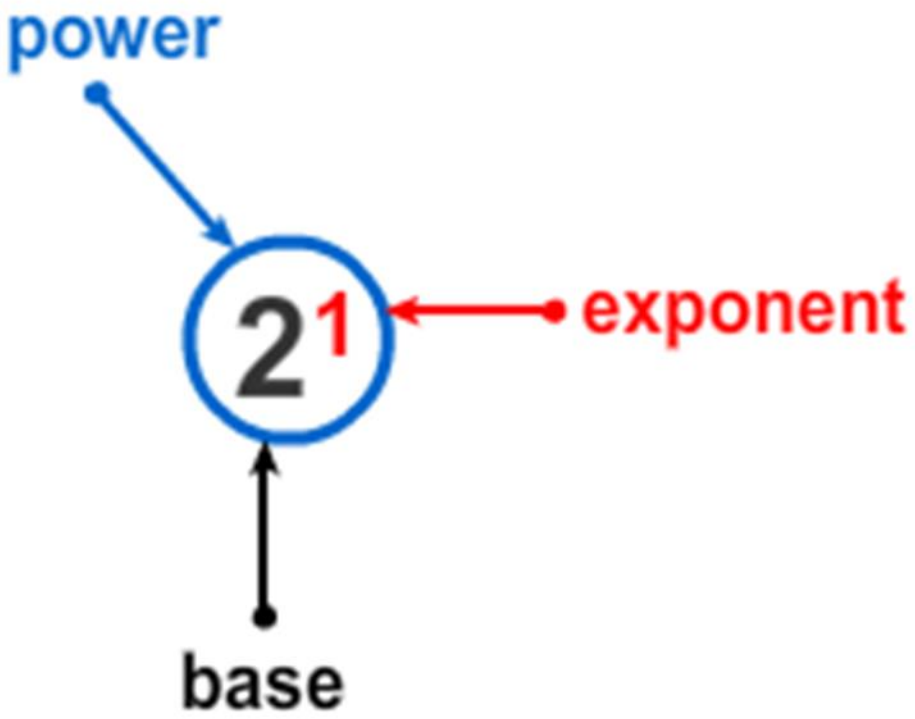
UNIT 13 LESSON REVIEW

What does the fox say?
It says: “I hope you all study hard for Unit 13 Math test!!!”

EXPONENTS / STANDARD/ EXPANDED FORM:



49

Is in Standard Form!

$5^4 = 5 \cdot 5 \cdot 5 \cdot 5$ ← expanded

$3^5 = 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3$

CUBES AND CUBE ROOTS

4^3

$4 \times 4 \times 4$

$\sqrt[3]{8} = 2$

COMMON CUBE ROOTS!!!

$\sqrt[3]{0} = 0$ $\sqrt[3]{64} = 4$ $\sqrt[3]{512} = 8$

$\sqrt[3]{1} = 1$ $\sqrt[3]{125} = 5$ $\sqrt[3]{729} = 9$

$\sqrt[3]{8} = 2$ $\sqrt[3]{216} = 6$ $\sqrt[3]{1000} = 10$

$\sqrt[3]{27} = 3$ $\sqrt[3]{343} = 7$

$1^3 = 1$ $\sqrt[3]{1} = 1$

$2^3 = 8$ $\sqrt[3]{8} = 2$

$3^3 = 27$ $\sqrt[3]{27} = 3$

$4^3 = 64$ $\sqrt[3]{64} = 4$

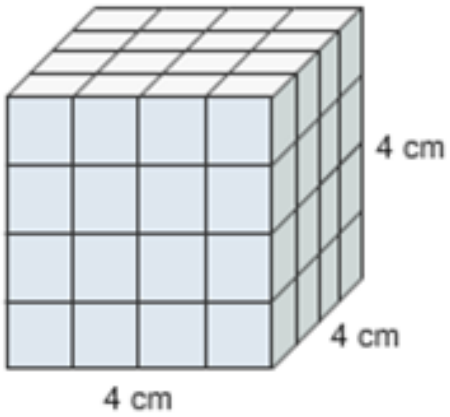
$5^3 = 125$ $\sqrt[3]{125} = 5$

$6^3 = 216$ $\sqrt[3]{216} = 6$

$10^3 = 1000$ $\sqrt[3]{1000} = 10$

WHY DO WE USE CUBES?

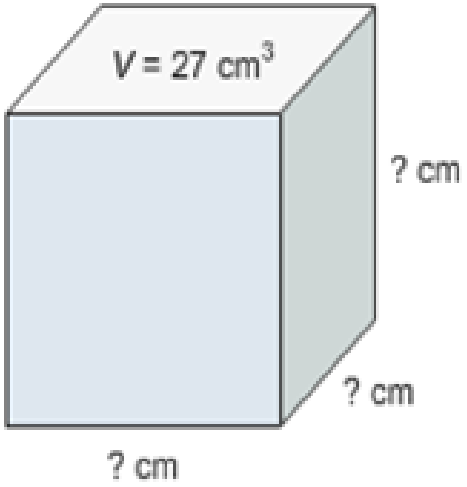
- To calculate the volume of a cube: use s^3



To find the volume of a cube, you cube the side length!

Volume = s^3

OR



To find the volume of a cube, you cube the side length!

Volume = s^3

$27 = s^3$

$27 = s \times s \times s$

What is the cube root of 27? $\sqrt[3]{27}$

- What is the length of the sides, if we have the answer first?

Volume = 125 cm^3

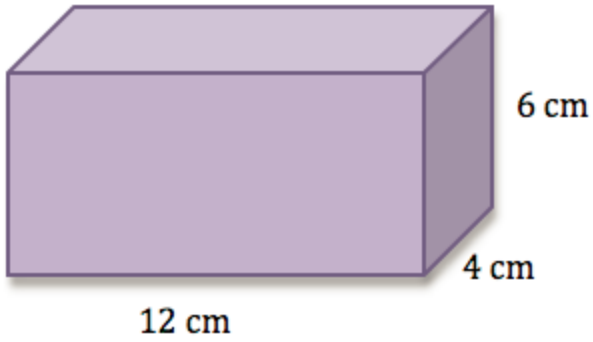
To find the volume of a cube, you cube the side length!

What is the side length?

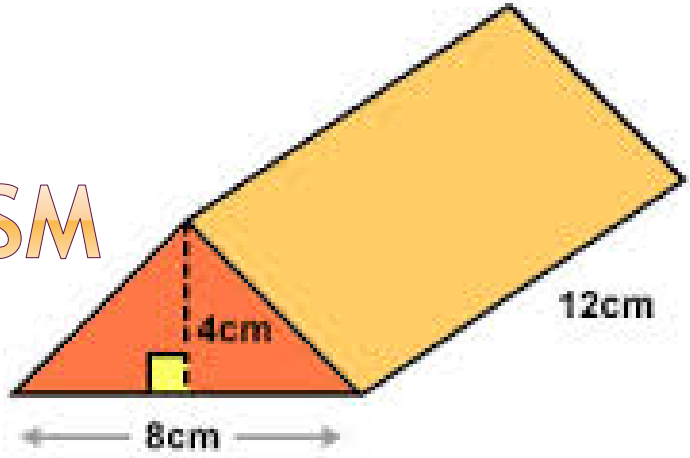
In order to find the length of one side, you need to find the CUBE ROOT of the total VOLUME!!!

$$\sqrt[3]{125}$$

RECTANGULAR PRISM



TRIANGULAR PRISM

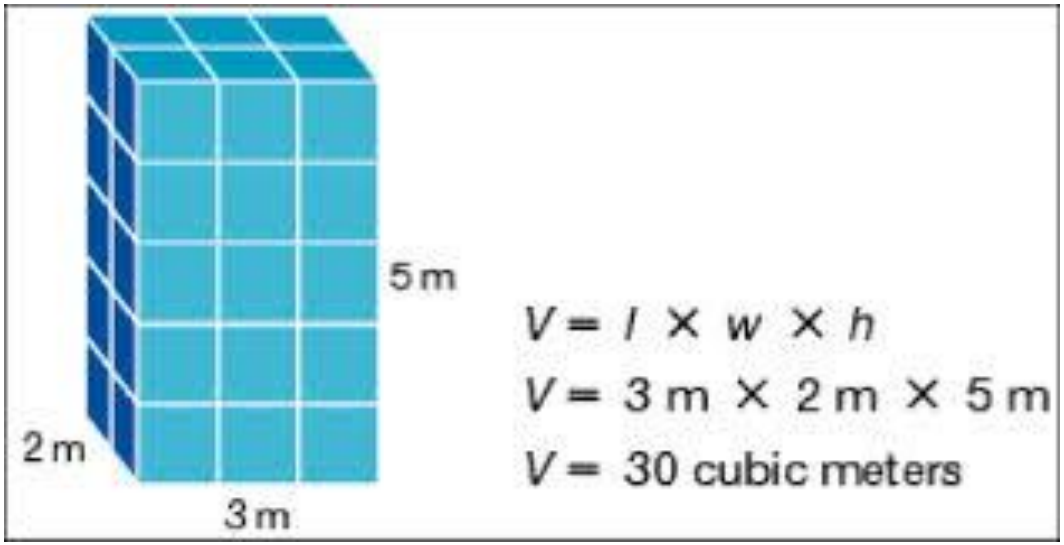


VOLUME:

- Tells us “how much” can fill it!!!

- Tells us how much space something takes up!

VOLUME OF PRISMS



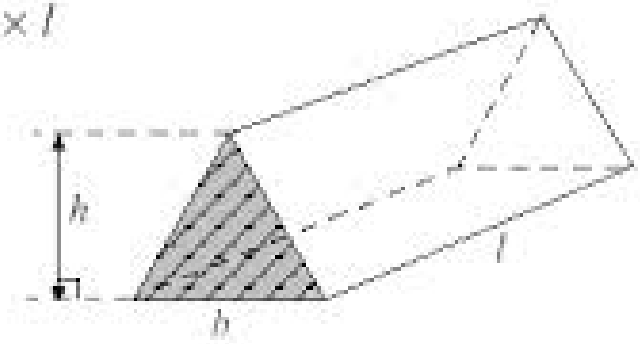
$V = l \times w \times h$

$V = 3\text{ m} \times 2\text{ m} \times 5\text{ m}$

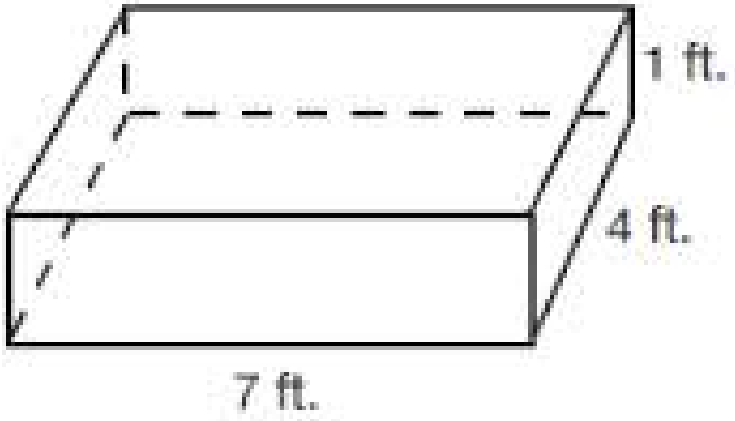
$V = 30$ cubic meters

Volume of triangular prism = area of cross-section × length

$$= \frac{1}{2} \times b \times h \times l$$



SURFACE AREA OF PRISMS



Remember to calculate the area of each side and then add them all together!

Area = L x W

Remember when working with triangles:

Area= ½ L x W

TIP: Draw the net first and label each side!! That will help you to calculate the area of each side before you add them together!!