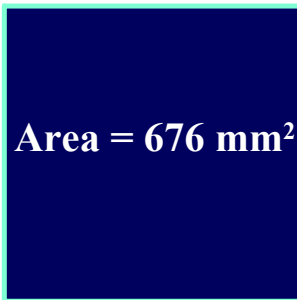


Warm Up Questions

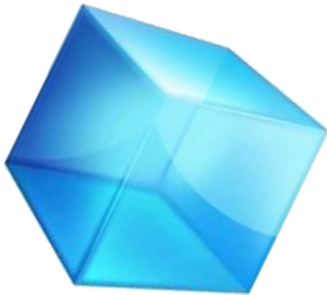
1.



Determine the side length of the square.

Volume = 2744 in^3

2.



Determine the edge length of the cube.

$$\begin{aligned} 1. \quad \sqrt{676} &= 2 \times 2 \times 13 \times 13 \\ &= 2 \times 13 \\ &= 26 \end{aligned}$$

$$\begin{aligned} 1. \quad \sqrt{2744} &= 2 \times 2 \times 2 \times 7 \times 7 \times 7 \\ &= 2 \times 7 \\ &= 14 \end{aligned}$$

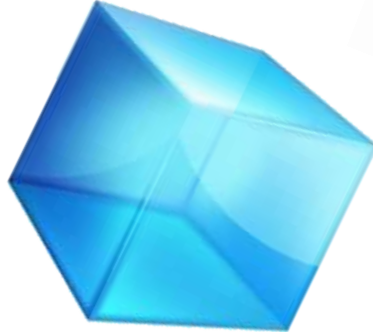
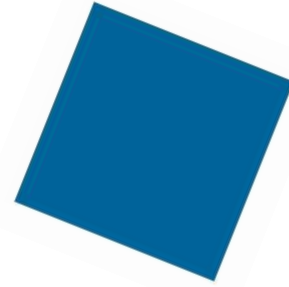


Area



Let's Take a Closer Look!!

Surface Area

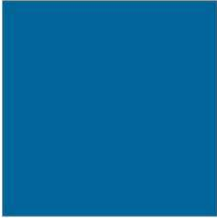


Volume



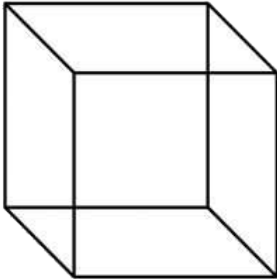
Formulas

Square



$$\text{Area} = l \times w$$

Cube

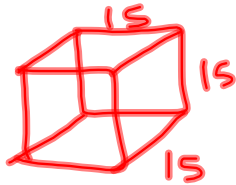


$$\begin{aligned}\text{Volume} &= l \times w \times h \\ \text{Surface Area} &= 6(l \times w)\end{aligned}$$

A cube has a volume of 3375m^3 . What is its surface area?

$3375 \rightarrow$

$$(3 \times 3 \times 3) \times (5 \times 5 \times 5)$$



$$3 \times 5$$
$$= 15$$

$$\begin{aligned} \text{SA} &= 6(L \times w) \\ &= 6(15 \times 15) \\ &= 6(225) \\ &= 1350\text{m}^2 \end{aligned}$$

You Try!

A cube has a volume of 1728m^3 . What is its surface area?

$$\sqrt[3]{1728} \rightarrow (2 \times 2 \times 2) (2 \times 2 \times 2) (3 \times 3 \times 3)$$

$$2 \times 2 \times 3$$

$$\begin{aligned} SA &= 6(L \times W) = 12 \\ &= 6(12 \times 12) \\ &= 6(144) \\ &= 864\text{m}^2 \end{aligned}$$

A cube has a surface area of 1944m^2 . What is its volume?

$$1944 \div 6 = 324 \quad SA = 6(L \times W)$$
$$\sqrt{324} \rightarrow (2 \times 2) \times (3 \times 3) \times (3 \times 3)$$
$$2 \times 3 \times 3$$
$$= 18$$

$$V = l \times w \times h$$
$$= 18 \times 18 \times 18$$
$$= 5832 \text{m}^3$$



A cube has a surface area of 9261m^2 . What is its volume?

